

EXHIBIT 83

1 UNITED STATES DISTRICT COURT

2 DISTRICT OF VERMONT

3 Civil Action No. 5:16-cv-00125

4 - - - - -x

5 JAMES D. SULLIVAN, et al., :

6 individually and on behalf of :

7 a Class of persons similarly :

8 situated, :

9 Plaintiffs, :

10 v. :

11 SAINT-GOBAIN PERFORMANCE :

12 PLASTICS CORPORATION, :

13 Defendant. :

14 - - - - -x

15
16 VIDEOTAPED DEPOSITION OF ROBERT UNSWORTH

17
18 Thursday, March 29, 2018, at 8:56 a.m.

19
20 Sugarman & Sugarman

21 800 Boylston Street, 30th Floor

22 Boston, Massachusetts 02199

23
24
25 REPORTED BY: Deanna J. Dean, RDR, CRR

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1 P R O C E E D I N G S

2 THE VIDEOGRAPHER: We are now on the
3 record.

4 The date today is March 29, 2018, and the
5 time is approximately 8:56 a.m.

6 Please note that the microphones are
7 sensitive and may pick up whispering, private
8 conversations, and cellular interference.
9 Please turn off all cell phones or place them
10 away from the microphones as they can interfere
11 with the deposition audio. Audio and video
12 recording will continue to take place unless all
13 parties agree to go off the record.

14 This is Media Unit No. 1 of the video
15 recorded deposition of Robert Unsworth, taken by
16 counsel for defendants in the matter of James D.
17 Sullivan, et al., versus Saint-Gobain
18 Performance Plastics Corporation, filed in the
19 US District Court, District of Vermont.

20 The deposition today is being held at
21 Sugarman & Sugarman, located at 800 Boylston
22 Street, Boston, Massachusetts.

23 My name is Patrick Blaskopf from the firm
24 Veritext and I'm the videographer. The court
25 reporter is Deanna Dean, also from Veritext.

1 I'm not related to any party in this
2 action, nor am I financially interested in the
3 outcome.

4 Counsel and all present in the room and
5 everyone attending remotely will now -- there's
6 no one attending remotely, but everyone will now
7 identify themselves and the parties they
8 represent, and afterwards our court reporter
9 will swear in the witness and we can proceed.

10 Counsel?

11 MR. WILSON: Lincoln Wilson of Quinn
12 Emanuel Urquhart & Sullivan for Saint-Gobain
13 Performance Plastics Corp.

14 MR. WOLFF: Bert Wolff for defendant.

15 MS. JOSELSON: Emily Joselson, Langrock
16 Sperry & Wool, for the plaintiffs.

17 ROBERT UNSWORTH

18 a witness called for examination by counsel for the
19 Defendant, having been satisfactorily identified by
20 the production of his driver's license and being
21 first duly sworn by the Notary Public, was examined
22 and testified as follows:

23 EXAMINATION

24 BY MR. WILSON:

25 Q. Good morning. Would you please state your

1 name for the record.

2 A. Robert Unsworth.

3 Q. And Mr. Unsworth, we've been introduced
4 off the record. My name is Lincoln Wilson. I'll
5 be taking your deposition today. I know you've
6 been deposed before, but I'd like to just go over a
7 couple of the ground rules for deposition.

8 As you're aware, it's important that we
9 give the court reporter an opportunity to create a
10 clean record of transcription of the deposition
11 you're giving today. So it will be important for
12 you to give verbal answers to the questions that I
13 ask today.

14 Do you understand?

15 A. Yes.

16 Q. And as you mentioned off the record, you
17 may sometimes be inclined to mumble, but if you
18 can, please speak clearly so the court reporter and
19 the videographer can clearly pick up what you're
20 saying today. It will be appreciated.

21 If you need a break at any time, feel free
22 to ask your counsel and we'll be happy to arrange
23 for that. Just not while a question is pending.

24 A. Mm-hmm.

25 Q. And you may be inclined at some points to

1 jump in and answer my questions because you have a
2 clear sense of where I'm going, and you may be
3 right about where I'm going; but just for the court
4 reporter's sake, if you could wait until I'm
5 finished with the question before you answer, that
6 would be much appreciated.

7 A. Sure.

8 Q. So plaintiffs' lawyers retained you in
9 this case to identify measures of groundwater
10 damages to the plaintiffs in this matter and to
11 estimate the magnitude of monetary damages. Is
12 that correct?

13 A. That's --

14 MS. JOSELSON: Object to the form, but you
15 can answer.

16 A. That is correct. I think there's
17 obviously more detail to it than that. But, yes,
18 that's correct.

19 Q. And you've provided an expert report in
20 this case on the issue of class certification. Is
21 that correct?

22 A. Well, the report is -- I'm not a lawyer,
23 but as I understand it, what I was asked was
24 whether I thought the damages could be estimated on
25 a classwide basis, and that's what -- my opinions

1 relate to that in part.

2 (Unsworth Exhibit 1 handed to the
3 witness.)

4 BY MR. WILSON:

5 Q. And I'm handing you what's been premarked
6 for identification as Unsworth Exhibit 1. Is this
7 the class certification report you provided in this
8 case?

9 A. It looks to be a correct copy of my August
10 report. Again, I'm not an attorney, so I'm not
11 sure what you mean by the class certification
12 report.

13 So I had a report in August which -- in
14 which I stated some facts associated with the
15 matter and talked about what methodologies I could
16 apply that could be applied on a classwide basis.
17 All that information is incorporated in the later
18 report, which is the December report, in which I
19 actually present damages. So . . .

20 Q. Fair enough.

21 And you also provided a sworn declaration
22 in this case in support of plaintiffs' motion for
23 class certification. Is that correct?

24 A. That's correct, yeah.

25

1 (Unsworth Exhibit 2 handed to the
2 witness.)

3 BY MR. WILSON:

4 Q. I'm handing you what's been premarked for
5 identification as Unsworth Exhibit 2. Is this a
6 copy of that declaration?

7 A. It seems to be, yeah.

8 MR. WILSON: And, Emily, I'll just note
9 just for housekeeping purpose that it appears
10 that on the docket, when that was filed,
11 Mr. Unsworth's report was not attached to the
12 declaration. So that might be something that
13 plaintiffs want to clean up. But just a
14 heads-up.

15 MS. JOSELSON: Okay. Could I have a copy
16 of Exhibit 2?

17 MR. WILSON: (Handing.)

18 BY MR. WILSON:

19 Q. So taking a look at your declaration, does
20 your -- and just for ease of reference, I know
21 you've given some qualifications about the initial
22 report you provided. I'm going to refer to that as
23 the class certification report, just for ease of
24 reference, if that's all right.

25 A. Okay.

1 Q. Does your class certification report
2 contain a complete statement of all opinions you'll
3 express relevant to the issue of class
4 certification?

5 A. I would say that the December report,
6 which some of the language changes slightly and I
7 go on to present the analysis, I think would be a
8 more complete representation of that -- on that
9 issue.

10 Q. I'd like you to take a look at Unsworth
11 Exhibit 2. Do you see in the second sentence of
12 paragraph 1 there, it says, "I have prepared an
13 expert report attached as Exhibit 1 which contains
14 a complete statement of all opinions I will express
15 relevant to the issue of class certification and
16 the basis and reasons for them as well as the
17 materials I considered in forming these opinions"?

18 Did I read that correctly?

19 A. You did.

20 Q. And is it true, then, that your class
21 certification report does contain a complete
22 statement of all opinions you'll give relevant to
23 the issue of classification?

24 A. Well, I also state in the report which was
25 submitted with it that if new information became

1 available, I would incorporate it in my opinion.

2 So to the extent that that is reflected in
3 the December report, I would say the December
4 report better reflects my opinions.

5 Q. Since this declaration has been filed with
6 the court and is a sworn declaration, do you feel
7 the need to correct your representations to the
8 court?

9 A. I don't think so.

10 Q. Did you draft your class certification
11 report yourself?

12 A. I did.

13 Q. And your class certification report does
14 not contain an estimate or quantification of
15 monetary damages for the class -- the putative
16 class members, does it?

17 A. No. That's in the December report.

18 Q. Do you believe your class certification
19 report is accurate?

20 A. Well, it's accurate within -- as I
21 mentioned, there may have been changes between the
22 August and December. But, yes, I believe it's
23 accurate.

24 Q. To the best of your knowledge, everything
25 stated in your class certification report is true.

1 Is that correct?

2 A. Yes.

3 Q. And you also provided an expert report on
4 certain issues pertaining to the merits in this
5 case. Is that correct?

6 A. Again, I'm not a lawyer, so as I
7 understand it, the term "merits" means damages,
8 what I would refer to as damages. So that would be
9 the December report.

10 (Unsworth Exhibit 3 handed to the
11 witness.)

12 BY MR. WILSON:

13 Q. I'm handing you what's been premarked for
14 identification as Unsworth Exhibit 3.

15 MR. WILSON: And there's a copy for you,
16 Emily.

17 MS. JOSELSON: Thank you.

18 A. That's the next one.

19 Q. Whoops.

20 Is this the report, the second report that
21 you submitted on of damages in this matter?

22 MS. JOSELSON: Object to the form
23 quantification.

24 A. This looks to be a correct copy of my
25 December report.

1 Q. And, again, just as a housekeeping matter,
2 I'll be referring to that as the merits report --

3 A. Okay. Thank you.

4 Q. -- throughout this deposition.

5 Does your merits report contain a complete
6 statement of all opinions you'll express on the
7 merits of this case?

8 A. I think it covers all the topics on which
9 I'll be -- I would be testifying and all the
10 opinions. It covers topically all of the opinions
11 I would have.

12 Q. Does your merits report contain the facts
13 or data you considered in forming your opinions?

14 A. It does.

15 Q. Do you plan to offer any other opinions
16 about the merits of this case that do not appear in
17 your merits report?

18 A. Depends on the questions you ask today.

19 Q. Are you aware of the requirement under the
20 federal rules that an expert submit in their report
21 all opinions they'll express in the case and the
22 basis and reasons therefore?

23 A. Yeah. I'm broadly familiar with that,
24 right.

25 Q. Do you believe it's proper for you to

1 express new opinions for the first time at
2 deposition in this case?

3 A. I think if you ask me a question that was
4 on a topic that wasn't addressed in the report, I
5 may have an opinion on that. So . . .

6 Q. Did you draft your merits report yourself?

7 A. I did.

8 Q. Do you believe your report is accurate?

9 A. Yes.

10 Q. To the best of your knowledge, is
11 everything stated in your merits report true?

12 A. Yes.

13 Q. Does the "Information Relied Upon" section
14 of your report list the full set of documents that
15 you reviewed on preparing each of those reports,
16 respectively?

17 A. So what I list are the specific documents
18 that I relied upon for this report. I also
19 reference my experience and the economics
20 literature. So there are obviously items and
21 authorities I'm aware of that relate to this that
22 helped form my opinion. But these are the specific
23 documents that I relied upon.

24 Q. Approximately how many hours have you
25 spent working on this case?

1 A. I would -- I'm going to have to guess. I
2 think it's about 100. It might be less than that.
3 But that would just be a guess.

4 Q. In the course of forming your opinions in
5 this case, did you ask plaintiffs' counsel to
6 provide you with certain documents?

7 A. Plaintiffs' counsel did provide me with
8 documents. I don't -- I don't think I -- I don't
9 recall requesting any specific documents from
10 plaintiffs' counsel.

11 (Unsworth Exhibit 4 handed to the
12 witness.)

13 BY MR. WILSON:

14 Q. I'm going to hand you what's been
15 premarked for identification as Unsworth Exhibit 4.

16 A. Mm-hmm.

17 MR. WILSON: A copy for you, Emily.

18 Q. So this is an email chain between Ms.
19 Joselson, who is counsel for plaintiffs; Tim
20 Raymond of the state of Vermont; and Matt Chapman
21 of the state of Vermont, who is cc'ed.

22 A. Mm-hmm.

23 Q. And the date of this email chain is
24 December 12, 2017. Is that correct?

25 A. That's correct, yeah.

1 Q. So that was three days before you
2 submitted your merits report. Is that correct?

3 A. That's correct.

4 Q. And in this email chain, Ms. Joselson says
5 she's now seeking a copy of a document submitted to
6 the state of Vermont by Jason Dolmetsch of MSK
7 Engineering on behalf of North Bennington's water
8 line extension analysis. "It is his preliminary
9 engineering report (and specifically his 20 percent
10 design memo), all submitted in November 2016."

11 Did I read that correctly?

12 A. You did.

13 Q. And Ms. Joselson goes on to say that "Our
14 experts need this document ASAP for incorporation
15 into their expert reports, which are due on
16 Friday."

17 Did I read that correctly?

18 A. You did.

19 Q. Were you aware that your merits report is
20 the only report in this litigation that cites the
21 MSK Engineering report referred to in Ms.
22 Joselson's email?

23 A. I wouldn't know. I haven't read any of
24 the other expert reports.

25 Q. Would it be fair to say that Ms. Joselson

1 requested that report from the state so that you
2 could review it and incorporate it into your
3 opinion?

4 MS. JOSELSON: Object to the form.

5 A. It appears that way. I don't -- sitting
6 here now, I don't recall how I would have used that
7 or did use that document.

8 Q. Can you tell me what information that
9 report contained that you incorporated into your
10 opinion three days before it was due?

11 A. I'd have to look at the document to see if
12 I, in fact, did cite it. I don't recall what this
13 particular document -- what it would have been used
14 for.

15 Q. So you hold yourself out as an expert in
16 the assessment of economic damages resulting from
17 adverse changes in the environment, including
18 environmental contamination, as well as the
19 benefits associated with improvements in
20 environmental conditions. Is that correct?

21 A. I am recognized as an expert in those
22 areas, yes.

23 Q. And you hold yourself out as an expert in
24 those areas. Is that correct?

25 A. I'm not sure what that -- what that

1 phraseology means. That's the business that I'm
2 in. That's what I do as a consultant.

3 Q. And you have stated that you are an expert
4 in those fields. Is that correct?

5 A. Yes.

6 Q. You are not an expert in air emissions
7 modeling, are you?

8 A. I work with air emissions models. It's
9 not unusual for us to have to work with air
10 emissions models. For example, we recently
11 completed some work for the city of Accra in Ghana,
12 looking at causes of air pollution there.

13 So I'm familiar with interpreting data
14 from those models, but I do not typically run those
15 models or wouldn't present myself as an expert in
16 air modeling. But I do understand them.

17 Q. You would be doing an economic analysis of
18 an air model performed by someone else. Is that
19 correct?

20 A. I would be using the information from the
21 model to understand the biophysical changes in the
22 environment or the chemical changes in the
23 environment.

24 Q. But as you said, you don't develop those
25 models yourself?

1 A. I have not developed any air models in
2 recent years, no.

3 Q. And you wouldn't be qualified to develop
4 them, would you?

5 A. I wouldn't put myself forth for that, no.

6 Q. You're not an epidemiologist, are you?

7 A. No, I'm not an epidemiologist.

8 Q. You're not a medical doctor?

9 A. No.

10 Q. You're not a property valuation expert?

11 A. I would disagree with that. It's not
12 unusual in my work to do hedonic valuation of
13 property diminution or use other techniques to get
14 a property diminution. So I've actually had --
15 have written expert reports on that topic.

16 Q. Hedonic valuation would be a form of
17 economic modeling. Is that correct?

18 A. It's a form of econometric modeling. So
19 what you do with a hedonic model -- and the word
20 "hedonic" has a very different meaning in economics
21 than it does in the law.

22 But within economics, hedonic models are
23 used -- you're using data on various attributes of
24 properties to explain their prices. And so by
25 doing that, you can use regression analysis and

1 other techniques to discern whether a particular
2 attribute has an effect on property values.

3 Q. And is that necessary only where there is
4 not available market information about the value of
5 property?

6 A. No. Typically it's the opposite. It's
7 using market data on the value of the property, so
8 you have to have market data.

9 Q. You have to have market data.

10 A. And I should say, you know, there are
11 other data that are similar to market data. So
12 there are -- there are census data; there are --
13 you know, there are data now available online from
14 Zillow and other providers of data that simulate
15 market data.

16 Q. But you're not an expert in real estate,
17 are you?

18 A. I'm not sure what that means.

19 I do economic analysis -- I have done
20 economic analysis of property values as they're
21 affected by various amenities and disamenities.
22 I'm not a real estate agent or I don't -- I don't
23 build models of valuation of commercial real estate
24 or anything like that.

25 Q. And those be amenities and disamenities

1 that would be environmental in nature. Is that
2 correct?

3 A. Typically for me, they're environmental in
4 nature, although my firm works on other attributes.
5 And you also -- you might have to get involved in
6 valuing other things, like whether or not they're
7 similar school systems or similar crime rates or
8 things like that. So . . .

9 Q. You wouldn't be able to tell me how much
10 adding granite countertops to a three-bedroom
11 apartment in Manhattan is going to increase the
12 sale price of my condo, is it?

13 A. No.

14 Q. No.

15 A. And I would assume it already has granite
16 countertops if it's a condo in Manhattan.

17 Q. It's a cheap one.

18 You never worked for a state regulatory
19 agency, have you?

20 A. I've been a consultant to several state
21 regulatory agencies, but I haven't been an employee
22 of a state regulatory agency.

23 Q. Have you ever worked for a federal
24 regulatory agency?

25 A. Same thing. I've been a consultant to

1 numerous federal regulatory agencies but never been
2 an employee of a regulatory agency.

3 Q. And the opinions that you're offering in
4 this case are limited to the field of economics.
5 Is that correct?

6 A. Well, I think I'm expressing opinions that
7 relate to understanding the law and how applied
8 economics might be applied to the law using
9 information on environmental conditions and
10 information on engineering possibilities to resolve
11 some of those conditions. So -- but all of those
12 things fall within what an economist does in
13 interpreting those data and using those data.

14 Q. So you may be looking at other disciplines
15 here, but it's all through the lens of economics.
16 Is that correct?

17 A. Yeah. Typically what I'm doing in all my
18 projects is looking at how has -- how have changes
19 in the environment, positive or negative, affected
20 people's behaviors, affected the valuation of
21 natural assets and private assets, affected
22 revenues to municipalities or other -- other
23 functions of things had happen due to a change in
24 the environment.

25 Q. And as you mentioned earlier, you're not a

1 lawyer, are you?

2 A. No, I'm not.

3 Q. What percentage of your work is litigation
4 consulting?

5 A. In terms of expert witnessing percent, or
6 cases where I'm going to be an expert witness? Is
7 that what you mean? Or --

8 Q. That would be a fair qualification.

9 A. I would say it's -- in terms of my
10 revenue, it's probably 10 percent.

11 Q. And what's the balance of your revenue?

12 A. Well, within industrial economics, we work
13 on a whole range of public policy projects and
14 damage assessment cases involving federal claims
15 against private parties or private-party claims
16 against the federal government, et cetera. So
17 there's a whole lot of things that we're involved
18 in.

19 Q. But that work that you do for governmental
20 entities against private parties, that's litigation
21 as well, isn't it?

22 A. Often -- I guess what I'm distinguishing
23 is almost all of my work is on projects that are
24 either in settlement negotiations with no intention
25 of going to litigation or they're in some kind of

1 cooperative assessments or they're providing
2 support more broadly to programmatic issues, so not
3 headed for litigation.

4 Q. So when I say "litigation consulting," I
5 mean any area where you're providing an opinion
6 relevant to a dispute between two parties,
7 regardless of whether it ultimately ends up in
8 court, arbitration, mediation, settlement.

9 With that understanding, how much of your
10 work is litigation consulting?

11 A. So where the work we do might contribute
12 at some point to a claim by one party against
13 another?

14 Q. Yes.

15 A. It's probably half.

16 Q. Half. And the balance --

17 A. And I'd have to distinguish my personal
18 work from the work at the rest of my firm, which it
19 would be less than that for the rest of the firm.

20 Q. Okay. So for you specifically, it would
21 be half of your work is litigation consulting?

22 A. Something like that. Would be related to
23 claims that individuals have against other
24 individuals.

25 Q. Or entities have against individuals or

1 other entities?

2 A. Yes.

3 Q. And what's -- the balance of your work
4 would be public policy. Is that correct?

5 A. I think that's -- public policy or
6 economic research.

7 Q. What percentage of the litigation
8 consulting work that you do is for the government
9 as opposed to private parties?

10 A. It's probably 80 percent government, 20
11 percent private. It also depends -- in some cases,
12 we're retained by private law firms, for example,
13 to work with Indian nations. So the ultimate
14 client would be a government of sorts, of the
15 Indian nation. So I'd have to guess, but it's
16 probably 80/20.

17 Q. What portion of your litigation work
18 involves habitability assessments?

19 A. I'm not sure what that means.

20 Q. Have you performed a habitability
21 assessment before?

22 A. Never heard of it.

23 Q. What portion of your litigation work
24 involves evaluating groundwater damages?

25 A. So of the piece that might involve

1 litigation, groundwater is probably a quarter.
2 That would -- that would imply that 20 percent of
3 my work is on groundwater. It's probably less than
4 that, actually. But my own personal work. Not the
5 firm's work, but my own personal work.

6 Q. Okay. I know you're the economist, not
7 me, and your math might be better than mine. But I
8 understood that 50 percent of your work is
9 litigation-focused, and if a quarter of that is
10 groundwater, then would that be 12.5 percent that
11 you do?

12 A. Oh, I thought we were still talking about
13 the government side.

14 Of overall work I do, how much is on
15 groundwater damages?

16 Q. Yes.

17 A. It's -- yeah, it's probably 10 or 15
18 percent.

19 Q. Okay. And within that work on groundwater
20 damages, how much is for the government as opposed
21 to private parties?

22 A. It's probably more of government-funded
23 than private party-funded.

24 Q. How much is government?

25 A. I don't know. I'd have to -- I'd have to

1 go back and do the math.

2 Q. Can you count on one hand the number you
3 of times you've done groundwater assessments for
4 private parties?

5 A. For private parties?

6 Q. Where the ultimate client was a private
7 party.

8 A. A private entity --

9 Q. Yeah.

10 A. -- not a governmental agency?

11 Q. Yeah.

12 A. I would think probably that's right, yeah.

13 Q. And how many of your fingers on that one
14 hand do you need to count those assessments?

15 A. I'd have to go back. I think it's five or
16 7.

17 Q. Okay.

18 A. I'd have to have an extra digit, possibly,
19 on one hand.

20 Q. Maybe a second hand?

21 A. Yeah.

22 Q. Can you tell me how evaluating groundwater
23 damages for the government is different than doing
24 so for a private party?

25 A. It actually isn't -- from an economic

1 perspective, the fundamentals aren't all that
2 different, where, as economists, we're always
3 looking at changes in behavior or distribution of
4 assets.

5 So, you know, for example, in this case,
6 it's not really all that different. The techniques
7 are very similar. There may be some categories of
8 damage which would accrue to a private party that
9 are -- would be atypical of a governmental party
10 and vice versa. But it's usually not all that
11 different.

12 Q. Would it be correct to say, though, that
13 you have to evaluate groundwater damages specific
14 to the rights of the party whose damages you're
15 evaluating?

16 A. I mean, as an economist, what we do is
17 assess damages, and those would -- that may have to
18 do with individual rights. Again, as I mentioned,
19 a private party may have rights the federal
20 government doesn't have, for example. But we're
21 looking at damages, and then typically it's the law
22 that's deciding what's recoverable for an
23 individual.

24 Q. But when you're looking at damages, you
25 need to make sure that you're looking at the

1 damages of the person you're evaluating and not the
2 damages of someone else. Is that correct?

3 MS. JOSELSON: Object to the form.

4 A. I think if someone were asking us to
5 assess damages, they probably wouldn't want to
6 spend a lot of effort on something they can't
7 recover damages for. But that would be a legal
8 decision.

9 Q. Have you ever done a groundwater
10 assessment on behalf of a putative class prior to
11 this case?

12 A. The -- yeah, I -- well, I'd have to go
13 back and look. I have worked on claims that have
14 involved what amount to class actions. I don't
15 know if they were actually entered as classes or
16 not.

17 Q. What cases would those be?

18 A. I mean, some examples would be the
19 Lockformer case in Chicago where I worked with Dr.
20 Kopp on that assessment. There was a case in
21 Florida involving contamination of groundwater,
22 contamination of soils in a neighborhood. I worked
23 on a project in -- east of St. Louis in Illinois
24 that involved groundwater damages.

25 MR. WILSON: I'd like to mark this as

1 Exhibit 5.

2 (Unsworth Exhibit 5 marked for
3 identification.)

4 BY MR. WILSON:

5 Q. Can you tell me what this is,
6 Mr. Unsworth?

7 A. It appears to be Dr. Kopp's expert report
8 from LeClercq versus Lockformer, which was a claim
9 for damages associated with groundwater
10 contamination in Naperville, Illinois, which is a
11 bedroom community of Chicago, which we worked on.

12 Q. And your name is also listed on this
13 report. Is that correct?

14 A. That's right.

15 Q. And you cited this report from the
16 LeClercq v. Lockformer case in your reports in this
17 case. Is that correct?

18 A. I know I included it as a reference. I
19 don't remember where we cited it. I'd have to
20 look. But I did include it as a reference for
21 sure.

22 Q. Can you tell me why you relied on this
23 report in forming your opinions in this case?

24 MS. JOSELSON: Object to the form.

25 A. So I provided this report -- this case

1 involved some similar economic issues, and also
2 forms a nice basis for considering the added costs
3 associated with folks having to switch to municipal
4 water and pay a water bill.

5 Q. And can you describe to me exactly what
6 your role was in preparing this report in the
7 LeClercq case?

8 A. Sure. At that time I was principal of my
9 firm, and Jennifer Renshaw -- who is now Jennifer
10 Baxter -- and Robert Patterson, who are both now
11 partners in the firm, were the staff working with
12 me and we were providing technical support to Dr.
13 Kopp.

14 Q. What do you mean by "technical support"?

15 A. We were gathering data at his direction
16 and doing calculations at his direction.

17 Q. So how was his role in preparing this
18 report distinct from your role?

19 A. He was the expert witness, so he was
20 the -- in this particular report, he was the expert
21 witness. He was the guy who got deposed.

22 I work a lot with Ray, so in some cases I
23 file joint reports with him. In some cases he's
24 the expert; in some cases I'm the expert.

25 Q. Did you refer to this report in the course

1 of developing your opinions in this case because
2 it's the only other case where you've provided a
3 damages assessment of groundwater on behalf of a
4 putative class?

5 MS. JOSELSON: Object to the form.

6 A. No.

7 Q. You also mentioned a case in Florida. Can
8 you tell me who the parties were in that case in
9 Florida?

10 A. The -- I'm forgetting the name of the
11 town. It's in northern Florida, just east of
12 Tampa. The parties were a neighborhood near a
13 pesticide and fertilizer grinding facility. So, as
14 I understand it, sometimes pesticides and
15 fertilizer is delivered in sort of block form and
16 it's mixed at a facility. That facility was doing
17 that mixing, and because of fugitive emissions and
18 because of overland runoff, the neighborhood had
19 very high levels of nitrate in their water. And so
20 we were looking at the effect on salability of
21 homes and property values associated with the
22 presence of nitrate.

23 Q. Did you provide an opinion in that case
24 about how property values were affected?

25 A. I did.

1 Q. On behalf of the putative class?

2 A. I don't remember if it was a class or not.
3 It was a neighborhood of, you know, similar homes,
4 and the methodology I used was conducted on a
5 neighborhood basis, so, you know, what you might
6 call a class basis. But I don't remember if it was
7 a class action.

8 Q. Do you recall the name of the defendant in
9 that case?

10 A. I don't.

11 Q. Do you recall any of the named plaintiffs?

12 A. I don't.

13 Q. Is it perhaps listed on your expert
14 report?

15 A. It would take me a while to go through
16 this. It may be in here.

17 Q. We can come back to that if there's an
18 opportunity at a break and if we're able to
19 identify it.

20 A. That's fine. Yeah.

21 Q. We'll all be the first to know.

22 A. And I provided an opinion in that matter,
23 and I believe I also provided an expert affidavit
24 on the settlement to the court on the
25 reasonableness of the settlement.

1 Q. Now, you mentioned in your report that
2 you've been retained by both plaintiffs and
3 defendants as an expert witness.

4 Can you give some examples of defendants
5 for whom you've previously provided an expert
6 opinion?

7 A. Yeah. I just -- I represented as an
8 expert Nicaragua in a claim brought by Costa Rica
9 in the world court. It was just -- a trial that
10 was just heard. They were the defendant.
11 Nicaragua was the accused party.

12 I've represented the Navy, the Air Force,
13 and Department of Defense as defendants in claims
14 for environmental damages, which they were
15 responsible for. There may be other -- there may
16 be other instances where I've represented
17 defendants in some matters.

18 Q. Have you ever represented a private
19 corporation?

20 A. Not in a damage claim, no. We do do work
21 with private corporations. I do work on, for
22 example, on Clean Water Act 316(b) analyses for
23 power companies. So we do do work for private
24 entities.

25 Q. Approximately when were you first retained

1 by plaintiffs' counsel in this case?

2 A. It would have been spring of last year.

3 Q. Would you agree that an economic analysis
4 of environmental damages must be conducted relative
5 to the property rights of the plaintiff, that is,
6 the person whose damages you're analyzing?

7 MS. JOSELSON: Object to the form.

8 A. So, again, you could have economic losses
9 that are true for which a person may not have
10 property rights. So the person may not -- may not
11 be able to recover those damages.

12 You also -- at times, for example, we are
13 able to assess damages and recover damages, for
14 example, for Indian nations because they have
15 unique rights that go along with their treaties or
16 something that, in effect, provide a property
17 right. So it can matter. The damages themselves
18 occur no matter what. The question is whether
19 courts would let people get relief for them.

20 Q. When you talk about loss, you have to talk
21 about whose loss it is. Right?

22 A. Well, we typically talk about the loss,
23 and then it typically accrues to a human, if that's
24 what you mean. So that's typically what we're
25 dealing with: a human or to a company or to a

1 governmental entity.

2 Q. And so you have to look at the losses that
3 are specific to the person whose damages you're
4 evaluating. Is that correct?

5 MS. JOSELSON: Object to the form.

6 A. Again, it's not -- I don't have to. There
7 may not be a great deal of purpose in looking at
8 damages if it's not something that the party can
9 recover. A great example of this is is if I'm
10 driving to work and two other parties have an
11 accident, and because of that -- I'm not touched at
12 all, I'm not bothered by it, but I'm late to work.
13 I accrue a real loss for being late to work, but I
14 can't recover damages for it. But the damage is
15 real.

16 Q. Do you pay attention to whether the
17 damages you tried to assess are legally recoverable
18 by the plaintiffs in this case?

19 MS. JOSELSON: Object to the form.

20 A. Yeah. I'm not sure what you mean by "pay
21 attention."

22 It's -- I don't recall having
23 conversations about that, but that's not an unusual
24 conversation for me to have with clients, to ask as
25 we go into a case what sorts of remedies are

1 available in the law for their -- for the client
2 and how my analysis might assist in those --
3 improving those -- you know, supporting those
4 remedies if in fact we find a damage.

5 Q. And so even as an economist, if you've
6 been retained to evaluate damages to Andy, you
7 can't say you're just going to look at losses to
8 Barry and someone else to determine Andy's losses.
9 Is that correct?

10 A. No, that would be wrong.

11 Q. So when you're working for governmental
12 entities, you have to evaluate damages with respect
13 to the public property and the natural resources
14 that are at issue in those cases. Is that correct?

15 A. No, that also wouldn't be correct.

16 Q. Why not?

17 A. You said public property. So, for
18 example, under -- under federal law, government
19 entities can recover losses on behalf of the
20 public. So those losses, in fact, may have accrued
21 to individuals -- my inability to go to a beach if
22 there's been an oil spill, for example. But the
23 federal government is allowed to accrue those
24 losses and try to remedy them in some manner.

25 Q. But those public rights are with reference

1 to property held by the government. Is that
2 correct?

3 A. No, that's not necessarily correct,
4 either. It -- you know, an oil spill that affects
5 beaches, some of those beaches might be private
6 beaches, but the federal government still has
7 within federal law the right to recover the
8 damages.

9 Q. But that's different from evaluating
10 damages for a private party because they have
11 different property rights. Is that correct?

12 A. Again, property rights can be important in
13 whether or not a remedy is available within the
14 law. And it may be important for me to know
15 because the client may not want me to spend money
16 assessing losses that they're not going to be able
17 to recover. But the damage models are -- can be
18 influenced by property rights but are not dependent
19 upon them.

20 Q. And private parties are not like the
21 federal government, where the federal government,
22 you're telling me -- the federal government, you're
23 saying, can recover for damage to a private beach.
24 Private parties can't do the same thing, can they?

25 MS. JOSELSON: Object to the form.

1 A. That's a good question. I mean, you know,
2 I'm not a lawyer, but within our field, for
3 example, private nonprofits can file suits against
4 parties if they feel that they need to act where
5 the government isn't acting.

6 And so, yeah, that's a good question. I
7 mean, it could be complicated.

8 Q. But those public-interest organizations
9 aren't plaintiffs in this case, are they?

10 A. I'm not -- I'm not aware if there's any
11 public nonprofits or nonprofits involved as
12 plaintiffs in this case.

13 Q. And in that earlier example of if you're
14 evaluating damages for Andy you don't look at
15 Barry's loss, Andy can't recover for Barry's loss,
16 can he?

17 A. Well, those are two different questions.
18 So one is a question of how you model the losses,
19 and it's not at all unusual within economics to --
20 for example, we talked about hedonic models. If
21 I'm looking at diminution in property prices, I'm
22 typically looking at transactions that have
23 occurred, but I am inferring from that losses to
24 parties who may not have sold their homes. They
25 still own their homes. And I would infer those

1 losses to those other parties.

2 Similarly, if I'm building a recreational
3 damages model, which we do a lot, I may infer
4 losses to the general public associated with loss
5 of opportunity to recreate. And that would be
6 based on data I have for certain individuals who
7 represent the rest of the public.

8 Q. So that's a question about the -- or an
9 issue about the availability of data that you seem
10 to be discussing there. Is that fair?

11 MS. JOSELSON: Object to the form.

12 A. No. It's not -- I mean, typically, we
13 don't -- in building the models, we don't need data
14 on every single individual. We're building models
15 that reflect damages and reflect changes in
16 behavior or changes in cost to individuals and we
17 apply that to broader groups.

18 Q. And I --

19 A. We don't need a census of all of the
20 individuals.

21 Q. That is what I'm asking, though, is that
22 you're using those techniques where you have
23 information on one person's loss to estimate
24 another person's loss. But that wouldn't -- that
25 does not mean, however, that one person may recover

1 for another person's loss.

2 MS. JOSELSON: Object to the form.

3 Q. Is that correct?

4 A. Yeah. So that would be a different issue,
5 and to me, that's a legal issue. I don't know. I
6 don't know how that might work.

7 Q. Are you aware of any provision of the law
8 that allows private persons to recover for a public
9 entity's loss?

10 A. I'm not a lawyer, and I wouldn't -- I
11 wouldn't want to speculate on that.

12 Q. But you're not aware of any provision that
13 would allow that?

14 MS. JOSELSON: Object to the form.

15 A. Can you repeat the question?

16 Q. You're not aware of any provision that
17 allows a private party to recover for a public
18 entity's loss?

19 A. Not as I sit here, but I'm not sure. I'd
20 have to know -- I'd have to know the context. That
21 might work within economics.

22 Q. Because you told me earlier you're aware
23 of provisions that you're saying allow a public
24 entity to recover for a private loss in the example
25 of the government recovering for private beaches.

1 But you're not aware of something going
2 the other way, are you?

3 A. Well, as I said, I mean, you know, groups
4 like Conservation Law Foundation will take actions
5 if they believe the government is not doing so and
6 may in fact recover -- it might be a private entity
7 recovering for the public's loss. So . . .

8 Q. Don't those private entities, Conservation
9 Law Foundation, for example, aren't they typically
10 seeking injunctive relief rather than monetary
11 damages?

12 A. Depends.

13 Q. Are you aware of cases where Conservation
14 Law Foundation has been permitted to recover
15 monetary damages for public loss?

16 A. I'm not aware of any specific cases, but I
17 am aware of instances where sort of public advocacy
18 groups have sought damages. I'm not sure where
19 that falls within injunctive relief, but -- again,
20 I'd have to think about that. I'm not sure that's
21 true.

22 Q. Are you aware of any cases where a private
23 individual, not a public-interest organization, is
24 empowered to recover for loss to a public entity?

25 MS. JOSELSON: Objection.

1 A. I'm not aware of any examples right now.
2 But, again, I'm not an attorney, so there may be
3 areas within the law where you're allowed to do
4 that.

5 Q. Would you also agree that an economic
6 damages analysis requires you to evaluate the
7 but-for world that would have existed in the
8 absence of the conduct that's at issue?

9 MS. JOSELSON: Object to the form.

10 A. So the but-for model is a -- is a standard
11 model. You asked the question what the world would
12 look like had the event in question had not
13 occurred, and you try to assess what the world
14 would look like but for that event. So that's a
15 pretty standard model. There are other frameworks,
16 but that's the standard framework. And that is the
17 framework I used here. So . . .

18 Q. So using that but-for model on events
19 relative to damages if it occurred in the actual
20 world but would not have occurred in the but-for
21 world.

22 MS. JOSELSON: Object to the form.

23 Q. Is that correct?

24 A. I'm not sure I followed that.

25 Q. Okay. So something might be potentially

1 relevant to damages if it did occur in the actual
2 world, but it would not have occurred in the
3 but-for world. Is that correct?

4 A. Again, that's not the way I would say it.
5 What you're typically asking the question is you
6 have -- something has happened and that's the --
7 that's the world with the event. And you're
8 comparing it to the but-for condition, which is but
9 for that event, what would the world look like?

10 Q. But if there is a particular consequence
11 that you're trying to quantify and measure, and
12 that consequence did occur in the actual world but
13 would not have occurred in the but-for world, then
14 that may be relevant to damages. Is that correct?

15 MS. JOSELSON: Object to the form.

16 A. If that -- if that consequence is the
17 thing you're trying to measure, yes. Again, I'm
18 not quite sure I would say it that way, but . . .

19 Q. Now, if an event occurred in the actual
20 world -- or let's call it a consequence.

21 If a consequence occurred in the actual
22 world but it would have also occurred in the
23 but-for world, then it's not relevant to damages,
24 is it?

25 MS. JOSELSON: Object to the form.

1 A. I would say that's not true, no.

2 Q. So if the sun rises in the east in the
3 actual world and it also rises in the east in the
4 but-for world, that wouldn't be relevant to
5 damages, would it?

6 A. Oh. You had -- I thought what you had
7 said is that if something else changed in those two
8 time periods, or during those -- from those two
9 scenarios.

10 Q. If the two worlds are the same, then
11 there's not a damages issue?

12 A. Then the but-for is only -- would only be
13 the consequence that you're trying to measure the
14 effects of.

15 Q. Okay. And would you agree that once we've
16 described the difference between the actual world
17 and the but-for world, the next task is to
18 determine how to quantify that difference?

19 MS. JOSELSON: Object to the form.

20 A. Broadly speaking, and when you say
21 quantify, that could include literally a
22 quantification of something or it could include a
23 monetization of something.

24 Q. And in doing so, it wouldn't be
25 permissible to speculate, would it?

1 A. We don't typically speculate, no.

2 Q. Not typically? Sometimes?

3 A. If I am talking to my daughter or
4 something, I might speculate. Typically in
5 business, I do not speculate. So . . .

6 Q. Okay. You have to be able to decide a
7 basis for our quantification of the difference
8 between the actual world and the but-for world. Is
9 that correct?

10 A. Yeah. You'd usually want to be able to
11 support the notion that there has been a change
12 associated with the thing that you're trying to
13 measure the consequences of, or the event you're
14 trying to measure the consequences of.

15 Q. And as you're trying to quantify that
16 difference, it's appropriate to consider all
17 available data. Is that correct?

18 A. I wouldn't say that. That's too broad.
19 We may not need all data. We would need data that
20 are relevant to the thing you're trying to measure.

21 Q. Yes. Relative to the thing that you're
22 trying to measure. It's appropriate to consider
23 all data relative to the thing you're trying to
24 measure?

25 A. I think it's appropriate to consider

1 sufficient information to get at the thing you're
2 trying to measure. Again, we don't always need a
3 census of information.

4 Q. And if someone is able to provide you with
5 more information that allows you to determine
6 damages on a more precise basis, that's
7 appropriate. Is that correct?

8 MS. JOSELSON: Object to the form.

9 A. It may be or it may not be necessary. For
10 example, we -- as I mentioned, we build economic
11 models all the time, and I can always go gather
12 more data. It may make the estimates more
13 statistically precise, but it may not be useful or
14 purposeful to spend the time doing that.

15 Q. But if someone provides you with that
16 information and it does make the model more
17 precise, it's appropriate to consider that
18 information. Is that correct?

19 A. Again, I wouldn't say that's necessarily
20 true. We've actually done research on how
21 additional information improves precision and, you
22 know, is it worth it to gather that additional
23 information; is it worth it to consider it?

24 So I think that you do reach a point at
25 which you do have enough information to have an

1 opinion to draw an inference, and having more
2 information may not be necessary.

3 Q. But let's say someone walks into your
4 office and says, "Hey, Mr. Unsworth, I've got this
5 additional information about this project I've
6 collected myself. I've gone through the work to do
7 it. I think it makes your estimate more precise."

8 It's appropriate for you to consider that
9 information. Right?

10 MS. JOSELSON: Object to the form.

11 A. Again, I may not need that precision.
12 Precision is -- describes how statistically
13 confident we are in the result or how confident
14 I am. If that information just makes me more
15 confident, depending on the level of effort
16 required to look at it or to include it, it would
17 depend. It would depend.

18 We go through this a lot in my field. So
19 the question is when is it useful to get more
20 information and when is it -- when is it not useful
21 to do that.

22 Q. Let's say you're estimating the total bill
23 to your client or total cost to your client of
24 something, and someone provides you with additional
25 information that shows that, under a more precise

1 model, the cost is actually significantly lower
2 than you estimated.

3 Is it appropriate for you to consider that
4 information?

5 A. So I guess the confusion here is that's
6 not what in statistics you refer to as precision.
7 Precision is how closely and how -- with what
8 statistical confidence you have in, or -- or other
9 confidence you have in the result.

10 So if I've estimated that a party has lost
11 \$7, plus or minus a dollar, precision would mean
12 I -- okay, now I know it's \$7 plus or minus 50
13 cents. So that that's different than someone
14 coming to me and saying, "Hey, it turns out the
15 number's 14." That's an accuracy problem.

16 Q. Okay. Okay. That's really helpful.

17 So if someone comes in and shows not just
18 additional information that makes your model more
19 precise but makes it more accurate, then that's
20 something that you really should consider. Is that
21 correct?

22 A. Yeah, possibly. Again, it has -- it would
23 have to do with magnitude and what the level of
24 effort required to incorporate that information.
25 But I say that in both of my reports that if

1 information came in that I thought was relevant, I
2 would consider it.

3 Q. So when you're calculating economic costs,
4 you have to properly account for the timing of cash
5 flows. Is that correct?

6 A. You're mixing accounting and economics
7 there, so you'll have to unpack that.

8 Q. Okay. When you're calculating economic
9 costs, you need to use an appropriate discount rate
10 or interest rate. Is that correct?

11 A. It's -- sometimes when we're looking at
12 economic damages, they occur over a certain time
13 period, and we may account for those losses either
14 by compounding or discounting to reflect the
15 presence of time in the analysis.

16 Q. And you have to consider the possibility
17 of contingent and future events when you're
18 evaluating economic damages, don't you?

19 MS. JOSELSON: Objection.

20 A. Again, I'm not sure what that means. You
21 have to give me more than that. Contingent in what
22 sense?

23 Q. If there's the possibility of future
24 events that may affect an estimate of damages going
25 into the future, those future events need to be

1 considered in your analysis. Is that correct?

2 MS. JOSELSON: Object to the form.

3 A. We may want to consider them. They may be
4 irrelevant to the analysis, but in some cases we
5 may want to consider them.

6 Q. And when you're calculating economic
7 damages, you shouldn't be treating periodic
8 expenditures that are incurred infrequently in the
9 same way that you would treat regular annual
10 expenses. Is that correct?

11 MS. JOSELSON: Object to the form.

12 A. Well, typically if they're periodic, like
13 if they were quarterly versus annual, you would
14 incorporate that in the analysis. So that that
15 would depend on how you did the calculation.

16 Q. I'm sorry. "Periodic" was the wrong word.
17 Maybe "extraordinary" would be a better word.
18 Something that occurs infrequently and is out of
19 the ordinary course, that should be treated
20 differently than a regularly recurring expense. Is
21 that correct?

22 MS. JOSELSON: Object to the form.

23 A. I think within that hypothetical, I think
24 what you're saying is correct. I'm not -- you'd
25 have to give me more information.

1 Q. Under what circumstances would you not
2 consider contingent events in evaluating future
3 damages?

4 A. So define for me what a contingent event
5 is.

6 Q. A contingent event that may or may not
7 happen, that may affect the damages in the future.

8 A. Can you read the question again?

9 Q. Under what circumstances -- you mentioned
10 that sometimes it would be appropriate to consider
11 contingent events and sometimes it wouldn't.

12 Under what circumstances would it not be
13 appropriate to consider a contingent event that may
14 affect damages in the future?

15 MS. JOSELSON: Object to the form.

16 A. I think I actually didn't say that. What
17 I said was there may be events that could occur in
18 the future that are irrelevant to my damages. If I
19 thought that they could affect the damages, I might
20 want to consider them.

21 Q. Might want to or would want to?

22 A. Might want to. Again, it would depend on
23 the magnitude of the effect. It would depend on
24 how confident I was in those things happening.

25 It's . . .

1 Q. So we're talking about annual expenses
2 versus extraordinary expenses -- is an example of
3 an extraordinary expense, would that be something
4 that is maybe a \$1,000 expense but it only occurs
5 once every 12 years? Would that be something that
6 needs to be treated differently than an annual
7 expense?

8 A. Well, within that hypothetical, if I had a
9 series of expenses that were annual and then one of
10 the items occurs every N years, I may need to treat
11 it differently. I may need to capitalize it, for
12 example, or include it within the calculations
13 every Nth year. So -- but that's, you know, a
14 pretty hypothetical, broad statement. So . . .

15 Q. Now, you state in your merits report, and
16 you're citing Dr. Siegel's report and the MSK
17 Engineering report, that it is expected that the
18 PFOA will persist for an indefinite period of time.
19 Is that correct?

20 A. Those are some of the statements made in
21 Dr. Siegel's report. It's not -- my analysis isn't
22 dependent on that statement, but that is a
23 statement that comes out of the Siegel report.

24 Q. So if the presence of PFOA did not
25 continue indefinitely, would that affect your

1 opinion on damages?

2 A. In this case it wouldn't, no.

3 Q. Why not?

4 A. The remedy that the state has imposed at
5 the site involves folks closing their wells and
6 sealing them, so sealing it effectively destroys
7 the well. There's also an indication from what the
8 state has said that once the wells are closed,
9 they're going to declare the area within the -- I
10 forget what they call the area -- it's like the
11 area of concern or something like that, the box --
12 that they're going to declare that to be Class IV,
13 which means the groundwater can't be used for
14 residential purposes or related residential
15 purposes.

16 So once that happens, it would -- it would
17 be my expectation that folks won't be going back to
18 their wells; that they're going to continue with
19 municipal water; that, you know, for example, if
20 the concentrations fall low enough, you know, 30
21 years from now or 40 years from now, that they
22 wouldn't go back to their wells.

23 So I'm not dependent on Siegel for that
24 determination. That's driven by the new
25 classification and by the fact -- people's actions

1 which are committing them to municipal water. And
2 I also calculate -- you know, there's a footnote
3 that shows a calculation for 30 years, so I'm also
4 demonstrating what the losses would be if it isn't
5 indefinite.

6 Q. Now, you mentioned also, though, in your
7 report -- it's in your merits report at page 9 if
8 you want to look at it -- you describe that
9 Saint-Gobain will bear the cost of maintaining and
10 operating POETs for those residences on the western
11 side of the contamination zone that cannot be added
12 to the municipal systems.

13 And then in a footnote, you say, "At some
14 point these residences may become responsible for
15 the costs of operating the POET systems if
16 Saint-Gobain has demonstrated a stable or
17 decreasing trend of PFOA levels for eight
18 consecutive rounds of quarterly sampling."

19 Did I read that correctly?

20 A. You did.

21 Q. So if PFOA did not continue indefinitely,
22 would it be relevant to those individuals' -- the
23 damages that you calculate?

24 A. It may be. I'm also aware that there is
25 an attempt -- since it's not desirable to have

1 people on POETs, there's also an ongoing attempt to
2 either get those folks deeper wells or get them
3 hooked up to the municipal system. But as of now,
4 as of when I wrote the report, there were, as I
5 understood it, 12 residents that were stuck in that
6 situation with that uncertainty.

7 Q. Would that be a good -- a good example of
8 contingent events in the future that may affect
9 your damages opinion?

10 MS. JOSELSON: Object to the form.

11 A. So it does affect my opinion, and that's
12 why I have the footnote. I note that there's that
13 uncertainty. I make the calculation based on them
14 being in a condition that effectively has them
15 bearing the same loss as people who have been moved
16 to municipal system, because I believe that they're
17 sort of -- as worse off as those folks are.

18 Q. We'll talk about that a little bit later.

19 But we would know -- need to know -- to
20 determine the damages for these individuals, these
21 12 individuals, we'd need to know more specific
22 facts, what remedy is ultimately going to be
23 created for them, whether Saint-Gobain is going to
24 bear the costs, what those costs are of the POETs.
25 Is that correct?

1 MS. JOSELSON: Object to the form.

2 A. So, to unpack that, would I -- would I
3 love to be able to see the future perfectly? Sure.
4 I can't, so I'm taking the information we have
5 today when we have to assess damages. So we don't
6 need to see the future perfectly. We just need to
7 use the best information we have available now.

8 And in addition, you said that it would be
9 whether Saint-Gobain bears it. It actually doesn't
10 matter to my model who bears the cost. It's still
11 a cost. It may matter to my client who is
12 recovering the damages, but from a damages
13 perspective, it doesn't matter.

14 Q. But if you're comparing -- if you're
15 comparing costs -- let me rephrase that.

16 You didn't attempt, though, in determining
17 damages for those individuals to determine what the
18 costs of operating the POETs would be into the
19 future, did you?

20 MS. JOSELSON: Object to the form.

21 A. No. What I do is I assign them a loss
22 associated with that.

23 Q. And so I understand your model on a big
24 perspective, as your model says for the people on
25 municipal water, it says -- it compares the water

1 rates that they pay to the cost that they would
2 have in maintaining a well, and assigns them the
3 difference that you determine between the costs of
4 the water usage and the costs of operating a well.
5 Is that correct?

6 A. Yes. Just to correct, you say people on
7 municipal water. There are obviously people in the
8 community who are on municipal water currently who
9 don't have wells. So what you're describing is
10 what the impact is associated with the individuals
11 who will now be on the municipal system who were
12 previously on wells.

13 Q. So -- and the whole measure of damages is
14 the difference between the costs of municipal water
15 and the costs of a well. Is that correct?

16 MS. JOSELSON: Object to the form.

17 A. For that particular component of damage
18 that I estimate. So there's three components.
19 That's one.

20 Q. And so then you say that for the people
21 who are staying on the wells, that they have the
22 same damages as the people who switched?

23 A. So what I -- so what I -- I have to
24 estimate the impact to those individuals. There
25 aren't very many of them. There's 12 of them, as I

1 understand it.

2 So what I say is -- in the report is that
3 I'm going to address their losses by assigning them
4 the higher of the estimates of the per-residence
5 losses for people going to municipal water, because
6 one solution is that they, in fact, would
7 ultimately be placed on municipal water, and that
8 they would -- given that their wells are
9 contaminated -- would prefer that.

10 Q. So there's a lot to unpack there. Because
11 doesn't your opinion also assume that people prefer
12 to be on wells rather than on municipal water?

13 A. As I said in my report, given that very
14 few individuals in this community who were on wells
15 asked to be added to municipal water, as an
16 economist, that's a revealed preference that I
17 think is clear. And, of course, that's given the
18 absence of contamination. Their opinions would
19 have changed when the contamination occurred.

20 Q. But for the people that are staying on
21 POETs, you're assuming that those people, those 12,
22 they want to be on municipal water?

23 A. I'm -- I'm estimating that I -- it's my
24 opinion that their losses would be at least that of
25 the people who are going on municipal water.

1 Q. And you didn't attempt to evaluate other
2 possible contingent events in the future for those
3 individuals, did you?

4 A. Well, as I said here, we did consider that
5 at some point they may be able to use their water,
6 although they have to keep testing it, and I'm also
7 aware that they may provide them with deeper wells.
8 But those are uncertainties. So . . .

9 Q. And you didn't attempt to quantify either
10 the likelihood of those uncertainties or the amount
11 of those costs if they were incurred, did you?

12 A. Didn't have the information to do it. If
13 you --

14 Q. Did you get the information?

15 A. If you told me today that we know we're
16 going to provide a certain number of them with
17 deeper wells and that those wells would be
18 unaffected by the contamination, that then they
19 would no longer experience that loss. But I didn't
20 know that at the time I wrote the report.

21 Q. But you also don't know that those people
22 are going to be eventually connected to municipal
23 water, do you?

24 A. No, but I do know that the state and the
25 municipality would have connected them had it been

1 feasible to. They would have included them in the
2 same group of people being connected. But for
3 physical reasons, they can't connect them.

4 Q. So you know that it's not feasible to
5 connect them to municipal water, but you're
6 nevertheless assuming that they have -- that they
7 will be and that they have the losses equal to that
8 outcome?

9 MS. JOSELSON: Object to the form.

10 A. Of at least that magnitude, yes.

11 Q. And how do you know that that's the low
12 value when you haven't attempted to quantify the
13 other contingent events?

14 A. Because I don't have the information to
15 quantify the other contingent events and because
16 that would be the desirable condition right now.
17 That's the remedy that would be desirable.

18 Q. But you know that it's not feasible?

19 A. I think they're still considering it.

20 Q. Did you attempt to quantify the costs of
21 drilling a deeper well or the costs of POET
22 maintenance going forward?

23 A. As I understood it, based on the public
24 statements, the state or Saint-Gobain have
25 committed to paying those costs. So that's not a

1 loss to the individual.

2 Q. But your report says that the individuals
3 may incur the costs later?

4 A. If -- if that -- if that current agreement
5 was not upheld, yes.

6 Q. And you told me it didn't matter to your
7 opinion who ultimately pays those costs. Isn't
8 that correct?

9 A. No. No, not necessarily. That's not what
10 I said.

11 Q. I think you said it matters to your client
12 but it doesn't matter to your model?

13 A. Sure. But there's no reason for me to
14 estimate a damage that I know my client isn't --
15 doesn't think that they're going to have to recover
16 for.

17 Q. And you didn't attempt to quantify the
18 costs of operating a POET, did you?

19 A. No, I did not.

20 Q. And you didn't attempt to quantify the
21 costs of drilling a deeper well, did you?

22 A. No, not in this report.

23 Q. But you nevertheless opine that the amount
24 of damages for switching to municipal water is the
25 low end of the value?

1 A. Right. Because if the individual isn't
2 going to pay for the POET, then that's not a
3 measure, appropriate measure of loss to that
4 individual. They do have to bear that they're on a
5 POET, but they're not going to pay for the POET.

6 MS. JOSELSON: I'll just say it's a little
7 after 10. I'd like to take breaks every hour or
8 so and -- whenever you're ready.

9 MR. WILSON: Let me take a quick look. I
10 think now might be a good time, but let me
11 just -- I might have a couple more questions and
12 then we can take a break.

13 THE WITNESS: Yeah. If we could take a
14 water break, that would be great. Then I'll
15 remember to detach.

16 BY MR. WILSON:

17 Q. So your report states -- just a couple
18 more questions here -- that individuals may become
19 responsible for maintaining the costs of the POETs
20 if Saint-Gobain has demonstrated a stable or
21 decreasing trend of PFOA levels for eight
22 consecutive rounds of quarterly sampling.

23 So is it your understanding that PFOA is
24 not present at the same levels and concentrations
25 at every putative class member's property?

1 MS. JOELSON: Object to the form.

2 A. Based on the information I've seen, it
3 appears that concentrations that were measured in
4 people's wells were not the same at every single
5 well. So there are graphs that show varying
6 concentrations.

7 Q. And since it is not, it may be that PFOA
8 is no longer detected in the groundwater at one
9 putative class member's property before it leaves
10 another putative class member's property. Is that
11 correct?

12 MS. JOELSON: Object to the form.

13 A. I'm not sure what you mean by "leaves."
14 You mean physically moves in the environment or --

15 Q. Yes. That it may be that one property
16 gets nondetect readings for eight consecutive
17 rounds of quarterly sampling and yet it's still
18 detectible in another class member's property.

19 MS. JOELSON: Object to the form.

20 Q. Is that correct?

21 A. I think that's a hypothetical, but I can
22 imagine that could happen, yes.

23 Q. And if that's the case, those two people
24 would be responsible for resuming POET costs at
25 different times. Is that correct?

1 A. They could be. I mean, it depends on,
2 again, what their -- what the ultimate remedy for
3 these 12 properties are.

4 Q. And they'd be entitled to different
5 periods of damage based on those different testing
6 results. Is that correct?

7 A. It depends. It depends on the -- on what
8 happens after that. It depends on whether they've
9 already been switched to municipal water or a
10 deeper well. So it would -- it would depend.

11 But based on the best available
12 information I have right now and when I wrote the
13 report, we don't know what's going to happen with
14 these 12 people.

15 MR. WILSON: Okay. We can take a break
16 now.

17 THE VIDEOGRAPHER: The time is
18 approximately 10:07 and this is the end of Media
19 No. 1.

20 (Recess taken from 10:07 to 10:16 a.m.)

21 THE VIDEOGRAPHER: We are back on the
22 record. The time is approximately 10:16 a.m.
23 and this is the start of Media No. 2.

24 Counsel, you may proceed.

25 BY MR. WILSON:

1 Q. So Mr. Unsworth, you began your opinion at
2 page 1 of your merits report by noting that 10 VSA
3 Section 1410(c) describes a cause of action for
4 unreasonable harm caused to Vermont's groundwater.
5 Is that correct?

6 A. That's the beginning of that bullet point,
7 yes.

8 Q. Is it fair to say that your opinion is
9 evaluating and attempting to quantify the
10 unreasonable harm that plaintiffs alleged to their
11 groundwater?

12 A. The damages I estimate are associated with
13 changes in behavior and changes in expenses, and a
14 measure of replacement cost.

15 Whether the definition of unreasonable
16 harm goes beyond that would be a legal question.
17 It's not something I'm addressing.

18 Q. Did you attempt to consider any of the
19 facts relevant to whether there's been unreasonable
20 harm in this case?

21 A. I would leave that to the court.

22 Q. Did plaintiffs' counsel ask you to
23 evaluate those factors?

24 A. As to whether this -- the presence of
25 contaminants in groundwater in Bennington is

1 unreasonable harm?

2 Q. Yes.

3 A. No.

4 MR. WILSON: Let's mark this as Unsworth
5 6.

6 (Unsworth Exhibit 6 marked for
7 identification.)

8 BY MR. WILSON:

9 Q. The court reporter has just handed you
10 what's been marked as Unsworth 6, and I'm going to
11 represent to you that this was produced to us as
12 one of the materials that you relied on in
13 connection with forming your opinion.

14 Do you recognize this?

15 A. I do.

16 Q. And can you tell me what this is?

17 A. It's a -- it's a printout of the
18 statute -- the section of the statute that deals
19 with groundwater protection.

20 Q. So you considered this statute, but you
21 didn't consider whether there had been unreasonable
22 harm in this case?

23 MS. JOSELSON: Object to the form.

24 A. I considered this statute, and then I
25 think there may be other documents that I relied

1 upon that cited that -- to give me context. But
2 it's not -- my damages aren't dependent on a
3 particular definition of unreasonable harm.

4 Q. So under section E of this statute, it
5 says, "Factors in determining reasonableness.
6 Factors to be considered into determining the
7 unreasonableness of any harm referred to in
8 subsection C above shall include but need not be
9 limited to the following:

10 1. The purpose of the respective uses or
11 activities affected."

12 Did I read that correctly?

13 A. You did.

14 Q. And the purpose of the respective uses or
15 activities affected, that would depend on how each
16 putative class member uses their water. Is that
17 correct?

18 MS. JOELSON: Object to the form.

19 A. I don't -- no, I don't believe that would
20 affect my damages model, whether they use it, for
21 example, to water their lawn versus bathe a child
22 versus drink it. I'm looking at the cost increase
23 of having water. So . . .

24 Q. It wouldn't affect your model, but it
25 would affect unreasonable harm. Is that correct?

1 MS. JOSELSON: Object to the form.

2 A. I've already said that I'm not going to
3 testify as to what is unreasonable harm. That's a
4 legal question.

5 Q. And since you're not testifying to that,
6 you don't know whether any of the damages that
7 you've modeled would actually be compensable by
8 the -- for or to the class members. Is that
9 correct?

10 MS. JOSELSON: Object to the form.

11 Q. Excuse me. Putative class members.

12 A. It's my opinion that these are real losses
13 and real measures of damage, and that these
14 measures of damage would make them partly whole for
15 their losses. Whether there are legal limits to
16 their recovery of those would be a question for the
17 court.

18 Q. But to know whether they are recoverable,
19 we'd have to consider whether the harm was
20 unreasonable. Is that correct?

21 MS. JOSELSON: Object to the form.

22 A. Apparently, within the law, yes, that
23 would be required. But, again, that wouldn't be my
24 role.

25 Q. So even if your model doesn't consider the

1 purposes and respective uses of the activities,
2 determining unreasonable harm would require that.
3 Is that correct?

4 MS. JOSELSON: Object to the form.

5 A. I don't understand that question.

6 Q. It was pretty impenetrable. I'll give you
7 that.

8 So even if your damages model does not
9 consider these factors, determining whether they're
10 the damages that you have analyzed are legally
11 recoverable would require considering these
12 factors. Is that correct?

13 MS. JOSELSON: Object to the form.

14 A. I think it's -- I think it's tautological.
15 You've presented a -- the statute, and the statute
16 apparently provides the conditions under which you
17 can get damages. So, by definition, whether folks
18 can recover or not is dependent on the statutory
19 interpretation. Whether my damages model is
20 correctly measuring the loss and whether it would
21 have to be adjusted to reflect some specific
22 conclusion of the law, that would be a different
23 issue.

24 Q. And by "tautological," you mean yes.

25 MS. JOSELSON: Object to the form.

1 Q. Is that correct?

2 A. I think you're asking me is the statute --
3 does the statute provide the legal remedy.

4 One approach to the legal remedy -- there
5 are other -- as I understand it, there were also
6 other causes of actions that were specified, so I
7 don't know whether those would come into play.

8 Q. And section E of this statute states that
9 "The factors to be considered in determining the
10 unreasonableness of any harm shall include."

11 Is that mandatory language?

12 A. I'm not a lawyer.

13 Q. Would you expect that the purpose of the
14 respective uses or activities affected discussed in
15 Factor 1 is going to be specific to each putative
16 class member?

17 MS. JOSELSON: Object to the form.

18 A. You have to -- I'm not sure what you mean
19 by that. I'm not sure what you mean by the
20 purposes. The purpose of the way they used water
21 or the purpose of the recovery of damage or the --

22 Q. The purposes of the respective uses or
23 activities affected with regard to groundwater.
24 Would you expect as an economist that that will be
25 different for each of the putative class members?

1 A. So within my calculations for the -- for
2 the added cost component, I am providing a measure
3 of the increased cost to the resident of paying
4 municipal water versus operating a well. Both
5 within the data that indicate that most residences
6 in Bennington are on a fixed quarterly bill and
7 where Bennington has implied in their materials
8 they provide to people as a fixed quarterly bill,
9 it doesn't matter to me how much or how -- or how
10 people use the water. They're switching from one
11 source of water to another.

12 I'm not sure that's what you meant, but
13 that's --

14 Q. It doesn't matter to you, but it does
15 matter to the law. Is that correct?

16 A. I'm not the law, so I don't know.

17 Q. And as an economist evaluating these
18 damages, you do have to come up with reasonable
19 assumptions and projections about the heterogeneity
20 or the homogeneity of the group that you're
21 evaluating. Is that correct?

22 MS. JOSELSON: Object to the form.

23 A. So I do consider differences, and that's
24 why there's several columns of calculations in my
25 analysis, because I do consider differences between

1 what I'm calling subclasses.

2 Q. And although you did not consider the
3 differences in the respective uses or activities
4 affected with regard to groundwater in this case,
5 as an economist looking at this issue, would you
6 expect those uses and activities to vary among the
7 putative class members?

8 MS. JOSELSON: Object to the form.

9 A. I would expect that people do, in fact,
10 use water differently, household to household. But
11 it doesn't -- the way I constructed my model,
12 I'm -- I'm incorporating that in the damages.

13 Q. And although your model did not consider
14 in Factor 2 the economic, social, and environmental
15 value of the respective uses, including protection
16 of public health, you would expect that that would
17 also vary according to the different uses of the
18 water by the putative class members. Is that
19 correct?

20 MS. JOSELSON: Objection.

21 A. So now you're wandering more into the
22 economics. And the individuals who had wells were
23 able to use groundwater unimpeded, and they were
24 able to put that water to whatever economic,
25 social, or environmental purpose they chose.

1 The -- and they -- and they were drinking water
2 that, absent the contamination, didn't represent a
3 public health threat from the position of the state
4 of Vermont. Now that it's contaminated, it does
5 present a public health threat and that impedes
6 their ability to use that water, so it impedes
7 their ability to have a well. They're going to be
8 provided a substitute which will protect their
9 health moving forward, which is great. But I would
10 say that it had an economic, social, environmental,
11 and public health impact with the contamination.

12 Q. So you're telling me that you did not
13 consider Factor 1 in this analysis but you did
14 consider Factor 2?

15 MS. JOSELSON: Object to the form.

16 A. No. It's purpose of respected uses or
17 activities affected. The activity of the
18 groundwater is the withdrawal of it from the
19 ground. So I did consider it.

20 What I said was I'm not going to legally
21 interpret the meaning of this -- of the statutory
22 language. That would be for the court. And I also
23 said that it -- I don't know whether the other
24 causes of actions would negate the need for the
25 statutory language.

1 Q. So are you telling me that you believe
2 that the economic, social, environmental value of
3 the respective uses is identical for all of the
4 1,000 some class members you estimate?

5 MS. JOSELSON: Object to the form.

6 A. I think some individuals, for example,
7 might have had larger families, but because of the
8 nature of my calculations, that doesn't affect the
9 damages.

10 Q. It may not affect damages under your
11 model, but do you believe that the economic,
12 social, and environmental value of the respective
13 uses is likely to vary among the putative class
14 members?

15 MS. JOSELSON: Object to the form.

16 A. I'd have to know how the court interprets
17 that language, and what I do know is everyone
18 outside of the 12 individuals we talked to is -- is
19 going to have to move to municipal water. So
20 that's the same across the members. They live in
21 different communities so they might have different
22 cost effects, and some people had different
23 equipment to treat their water than others did, and
24 that's incorporated in the model. But I don't see
25 any factors here that would vary that would cause

1 my damages to vary.

2 Q. So it wouldn't cause your damages to vary,
3 but you would expect that those things, those
4 conditions would vary among the putative class. Is
5 that correct?

6 MS. JOSELSON: Object to the form.

7 A. I don't know how these are defined within
8 the law, so I don't know if they vary. I don't
9 know whether it's defined at an individual level or
10 what the definition of these -- whether the courts
11 have interpreted what this sentence means.

12 Q. Well, you seemed comfortable applying the
13 definition of this language when I first asked you
14 about it and you told me about economic analysis.
15 So you seemed to understand the language here
16 enough to be able to know what these words mean.

17 And would you -- would you believe that
18 the economic, social, and environmental value of
19 the respective uses is likely to vary among the
20 putative class?

21 MS. JOSELSON: Object to the form.

22 A. My answer was that I could imagine that
23 there's been economic, social, environmental, and
24 public health uses or values associated with this
25 water that have changed, and that's being addressed

1 by providing a substitute, which is municipal
2 water. And it's also being addressed within my
3 model by providing a replacement.

4 Q. So you're telling me that it's changed --

5 MS. JOELSON: Wait a minute. Did you
6 finish your answer?

7 Q. I'm sorry.

8 THE WITNESS: Yes.

9 MS. JOELSON: Okay.

10 Sorry, Lincoln.

11 Q. So you're telling me that it's been
12 change, you believe, by the presence of PFOA. But
13 even before that, the economic, social, and
14 environmental value of the respective uses would
15 vary among the putative class members. Is that
16 correct?

17 MS. JOELSON: Object to the form.

18 A. The individual values that an individual
19 might hold for groundwater might vary, but the
20 remedy here is the same for all of them, so the
21 harm is the same.

22 Q. Would you expect the nature and extent of
23 the harm caused to vary among the putative class
24 members?

25 MS. JOELSON: Object to the form.

1 A. Within my report, I show different
2 magnitudes of the class change, for example. So,
3 yes, I would expect it to vary by subclass.

4 Q. And the harm -- the alleged harm to the
5 groundwater itself, would you expect that to vary
6 among the class members?

7 MS. JOSELSON: Object to the form.

8 A. Not for purposes of my analysis. So if
9 someone had higher concentrations observed at some
10 time in their well versus someone else, if both of
11 them have to hook up to the system and both of them
12 have lost the use of that groundwater, I wouldn't
13 see a great deal of variation based on
14 concentration.

15 Q. What do you mean, you wouldn't see a great
16 deal of variation based on concentration?

17 A. In terms of the damages within my model.
18 The impact on them is the same and the remedy is
19 the same.

20 Q. But is it possible that those differences
21 in concentration might constitute differences in
22 whether there was unreasonable harm?

23 MS. JOSELSON: Object to the form.

24 A. I'd go all the way back to the beginning.
25 I'm not going to testify as to what the court views

1 on reasonable harm is.

2 Q. And it is your understanding that there
3 are differences in concentration among the various
4 putative class members here. Is that correct?

5 A. That's correct.

6 Q. Are there any subclasses identified in the
7 motion -- are there any subclasses identified in
8 the motion for class certification for the
9 groundwater class?

10 A. Not that I'm aware of. I'm using the term
11 "subclass" here in a nonlegal sense. It's just a
12 portion of the class. I'm using it in a common
13 language sense.

14 Q. Now, Factor 4 is the practicality of
15 avoiding the harm, if any.

16 A. Mm-hmm.

17 Q. Your opinion does make clear that there
18 are differences among the putative class members in
19 the practicality of avoiding harm. Is that
20 correct?

21 MS. JOSELSON: Object to the form.

22 A. I'm not sure if that's -- I'm not sure how
23 the court would interpret that. I mean, it could
24 be that this language means the practicality that
25 the responsible party could have avoided creating

1 the situation we have. So if it was -- you know,
2 that may be a different topic entirely.

3 Q. In either case, would you expect that to
4 vary among the putative class members?

5 MS. JOSELSON: Object to the form.

6 A. If it's the definition I just gave, no.
7 It was either practical or impractical for the
8 facility to not release PFOAs to cause this
9 situation.

10 Q. Wouldn't that vary, though, according to
11 the location of each putative class member relative
12 to the alleged source of the PFOA?

13 MS. JOSELSON: Object to the form.

14 Q. That it may be more or less practical
15 depending upon where they're located?

16 MS. JOSELSON: Object to the form.

17 A. I don't know. That's -- there's a lot of
18 issues there: legal, hydrological, atmospheric.
19 So . . .

20 Q. It would be fair to consider those,
21 wouldn't it?

22 MS. JOSELSON: Object to the form.

23 A. I don't know. I'm not interpreting the
24 law here. I'm just looking at the economic effect
25 of the current situation.

1 Q. And you can't tell me that, after having
2 evaluated the potential damages to this putative
3 class, whether you think that the differences in
4 location among those class members might affect how
5 practical it is to avoid the harm for them?

6 MS. JOSELSON: Object to the form.

7 A. The harm is, from my model's perspective,
8 is the need to connect to the municipal water
9 system and incur those costs, and the need to
10 provide a substitute. So it -- that is common to
11 all class members, although some of my calculations
12 vary across what I call subclasses.

13 Q. Factor 5 --

14 A. So if this Bullet Point No. 4 is a
15 question of causality or liability, that's not
16 relevant to my calculations.

17 Q. But it is relevant under the law because
18 it states that these factors shall be considered.
19 Is that correct?

20 MS. JOSELSON: Object to the form.

21 A. You're the attorney, not me. So . . .

22 Q. Factor 5 is the practicality of adjusting
23 the quantity or the quality of water used or
24 affected and the method of use by each party.

25 That would be something that your opinion

1 does make clear varies among the class -- putative
2 class members. Is that correct?

3 MS. JOSELSON: Objection.

4 A. In -- within the group of 12, if this
5 relates to the practicality of the harmed party in
6 adjusting their behavior as opposed to the -- I
7 don't know whether this was written from the
8 perspective of the harmed party or the responsible
9 party. But if it's written from the perspective of
10 the harmed party, that does relate to the model,
11 because there are 12 homes that can't practically
12 be connected to the municipal system -- practicably
13 be connected.

14 Q. And Factor 7 is the protection of existing
15 values of land investments, enterprises, and
16 productive uses.

17 To determine that, we'd need to know the
18 value of the specific land enterprise and use,
19 wouldn't we?

20 MS. JOSELSON: Objection.

21 A. I'm not -- my report doesn't address
22 whether the values of the land have changed. The
23 values of properties have changed.

24 Q. It does say the protection of existing
25 values of land investments, enterprises, and

1 productive uses.

2 Would you expect that existing values of
3 land investments, enterprises, and productive uses
4 would vary among the thousand class members,
5 putative class members in this case?

6 MS. JOSELSON: Object to the form.

7 A. You're asking whether the values would
8 vary for that, across the class? The value of
9 their land?

10 Q. Yes.

11 A. I would expect the value of the home
12 varies depending on the attributes of the home.

13 Q. What attributes would those be?

14 A. How nice the home is. How many bathrooms
15 it has. Size of lot. Things like that.

16 Q. Granite countertops?

17 A. Yes. Yes. I presume it would be Vermont
18 slate, but -- yeah.

19 Q. So your damages analysis in this case is
20 based on the properties and characteristics --
21 excuse me. Let me restart that.

22 Your damages analysis in this case is
23 based on the properties in the proposed class area
24 to have wells with elevated PFOA. Is that correct?

25 MS. JOSELSON: Objection.

1 A. A portion of my damages are the added
2 costs to residences in Bennington and North
3 Bennington who had wells which have to join the
4 municipal system or will be unable to and have to
5 have some other remedy.

6 Q. And so you're looking at properties
7 relative to those wells. Is that correct?

8 A. I'm not sure what you mean by that.

9 Q. Your analysis is considering specific
10 parcels of land.

11 A. So we estimate the number of affected
12 parties based on the expectation of connections. I
13 don't know if there could be more than one
14 connection per property or that some properties
15 don't have a connection, for example. So --
16 they're largely residential properties.

17 Q. And you're using "property" as a proxy for
18 "party." Is that fair to say?

19 MS. JOSELSON: Object to the form.

20 A. In a damage calculation sense, yes. I
21 don't know -- I don't know legally what the
22 definition of a party is. But that could vary.
23 But I'm using the number of wells as a measure.

24

25

1 MR. WILSON: Would you mark this as
2 Exhibit 7.

3 (Unsworth Exhibit 7 marked for
4 identification.)

5 BY MR. WILSON:

6 Q. So we just handed you what's been marked
7 as Exhibit 7 to your deposition.

8 Do you recognize this document,
9 Mr. Unsworth?

10 A. I do.

11 Q. And can you me what it is?

12 A. It's an email from Emily Joselson to
13 myself and one of my staff members, and it's -- it
14 gives the class definitions in the second
15 complaint. I don't remember if the first complaint
16 had the class definition in it, but this gives the
17 definitions.

18 Q. And is this what you relied on in
19 determining the -- your opinion in this case with
20 regard to the damages of the putative class?

21 MS. JOSELSON: Object to the form.

22 A. I did and I didn't. So I -- it's
23 interesting for me to know and it provides me
24 context. The -- my damages are a function of the
25 number of wells that will have to be closed and

1 hooked to the municipal system, and it's a function
2 of a desire to replace wash groundwater services
3 across the community. So it -- my damages are not
4 a direct function of -- of this except for the fact
5 that I -- I'm looking at across the community at
6 all the potential class members.

7 I interpreted -- I interpreted the
8 definition -- the thing I was asked to do is
9 provide damages to everyone who was affected by
10 this contamination effect -- impact in Bennington
11 and North Bennington. But I didn't -- I didn't
12 parse this language to determine any specifics of
13 my damages.

14 Q. So if we take a look at paragraph 76
15 there, it says, "Property damages and Groundwater
16 Protection Act class. All natural persons, whether
17 minor or adult, including any person claiming by,
18 through, or under a class member of interests in
19 real property within the bracketed class area,
20 including but not limited to those persons whose
21 private property wells have been found to include
22 PFOA or to have PFOA above 20 parts per trillion."

23 Did I read that more or less correctly?

24 MS. JOSELSON: Object to the form.

25 A. You read it more or less correctly.

1 Q. And so the class here is limited to
2 natural persons. Is that correct?

3 A. At the risk of offending Mitt Romney, I'm
4 not sure what a natural person is. So . . .

5 Q. It does not include corporations?

6 A. According to Mitt, it might. I don't know
7 legally. So -- I don't know. I don't know what
8 those definitions mean.

9 Q. Does it include municipalities?

10 A. I don't know.

11 Q. Is it your understanding that a
12 municipality is a natural person?

13 A. I don't know. Within the law, I don't
14 know.

15 Q. If a municipality is not a natural person,
16 would that affect your opinion in this case?

17 A. No.

18 Q. Now, since ultimately it's individuals who
19 are class members in this case and who have -- the
20 plaintiffs allege have experienced damages, is
21 there some level of a mismatch between your
22 analysis and the class definition since your
23 analysis relates to properties rather than to
24 individuals?

25 MS. JOSELSON: Object to the form.

1 A. I think that would be a legal question. I
2 don't -- presuming the properties are owned by
3 individuals, so I -- and the well impacted. So I
4 don't -- that's a legal question, not a question of
5 my model.

6 Q. So if one of the individuals who had an
7 interest in the property in this class area, if
8 they didn't intend to remain at the property -- say
9 they intended to sell it --

10 A. Mm-hmm.

11 Q. -- would that affect damages in this case?

12 A. No.

13 MS. JOSELSON: Object to the form.

14 A. No, it wouldn't.

15 Q. That's not a future contingent effect that
16 would affect your damages opinion here?

17 A. So my damages opinion is that folks, some
18 folks are going to experience an increase in the
19 cost of obtaining water. And to the extent that
20 they remain in a home, that's a cost they're going
21 to bear if they're the person who is responsible
22 for expenses. And to the extent they sell the
23 home, economic theory and practice would tell you
24 it gets capitalized in the value of the home, so
25 they would suffer the loss in that manner. The

1 person who buys the home that that's an attribute
2 and they know that that's a future condition, just
3 like you would look -- typically look at water
4 bills and electric bills and heating bills in
5 deciding how much to pay for a home.

6 So I wouldn't expect -- I wouldn't expect
7 either of my damage components to be affected by
8 the sale of a home or the sale of a property.

9 Q. So say someone sells their home in this
10 class area one year from now.

11 A. Mm-hmm.

12 Q. And so for 29 of the years that your
13 opinion runs through, they're not accruing these
14 added costs that your opinion describes.

15 Would that person --

16 A. See, I would disagree with that.
17 That's -- what I just said was I think they will
18 incur it. They'll incur it in a lower-value home.
19 It's now a cost burden on the home.

20 Q. So you're telling me that the reduction in
21 value of their home will be identical to the cost
22 of 29 years of water bills minus the cost of well
23 maintenance?

24 MS. JOSELSON: Object to the form.

25 A. I would -- I think actually my model runs

1 99 years. I also calculate it for 30 years. And
2 yes, economic theory would tell you yes, that the
3 cost of owning the home is capitalized in its
4 value.

5 Q. That they are identical?

6 A. That's what economic theory will tell you,
7 yes. The market is efficient and it will be
8 capitalized in the value, just as the number of
9 bathrooms would, or your heating bill.

10 Q. Economic theory with regard to property
11 values is different from the reality of how
12 property values change, isn't it?

13 MS. JOSELSON: Object.

14 A. I think it's very well established both
15 within economics and within -- within the appraisal
16 field that the value of a piece of real estate
17 relates to the cost associated with owning that
18 real estate. So that's a pretty well founded
19 concept, and pretty well founded in practice.

20 Q. So are you telling me that if someone
21 wanted to purchase that home in a year, they could
22 come to the seller and say, "See the report of
23 Robert Unsworth here? I demand a discount to the
24 listing price equal to 99 years of water usage at
25 this home minus the costs of well maintenance,

1 capitalized to present value based on the 30-year
2 mortgage rate in Bennington. Economic theory
3 dictates this is the result. Please give me my
4 discount."

5 Are you telling me that someone could do
6 that?

7 MS. JOSELSON: Object to the form.

8 A. As you go into negotiations over
9 purchasing a home, you can bring whatever evidence
10 you want. And I -- I would expect that an
11 individual, taking all other factors into account,
12 would consider that as they look at substitute
13 possibilities of home purchases, yes. I would
14 expect that a rational buyer will keep in -- will
15 account for all the expected future costs of the
16 home.

17 Q. And if a local real estate appraiser in
18 Bennington said, "No. The costs of municipal
19 water, that's not going to discount the value by
20 that much," would you tell -- tell that real estate
21 appraiser that your model was a better description
22 of the effect on value than his?

23 MS. JOSELSON: Objection.

24 A. I would say two things. One is yes,
25 economists do a better job valuing homes than

1 appraisers do; and, two, not that much. It says in
2 my report that it's around 7 percent. So that
3 statement actually may be correct.

4 Q. Is it possible that the connection to
5 municipal water increases property values?

6 A. It's possible for some individuals it does
7 and for others it would be -- it would be lower.
8 So . . .

9 Q. It's not possible that a connection to
10 municipal water may make a home more attractive to
11 potential buyers?

12 MS. JOSELSON: Object to the form.

13 A. Knowing that the home was connected to
14 municipal water because the groundwater was
15 contaminated might actually have the opposite
16 effect.

17 Q. But it might have a positive effect. Is
18 that correct?

19 MS. JOSELSON: Object to the form.

20 A. I think -- again, this deals with your
21 but-for conditions. So if you're asserting that
22 homes that are attached to a municipal system may
23 sell for more, all else equal, than a home with a
24 well, that's not the right question.

25 The right question is would a home that

1 has the presence of contaminants and for which you
2 can't have a well, would that sell for the same
3 amount as it would absent the contamination. And
4 I'm saying that's not true.

5 I would also say that folks chose these
6 homes, and very few people asked to be connected to
7 the municipal system. So if there was arbitrage to
8 be had there, it would have been had.

9 Q. We'll get to that in a bit.

10 So you're saying that when you value the
11 damages in this case, the added cost damages,
12 you're comparing the connection to municipal water
13 and the additional water rates to the costs of well
14 maintenance. But in accounting for any potential
15 effect on property values, you don't look at the
16 connection to municipal water at all; you only look
17 at the fact that the water, the groundwater at the
18 home has PFOA in it. Is that correct?

19 MS. JOSELSON: Objection.

20 A. I'm not actually looking at the impact on
21 property values, so it's -- I don't account -- I
22 don't do that at all.

23 Q. Well, you told me about the appropriate
24 way to look at that issue would be to only look at
25 the fact that the groundwater has PFOA in it, not

1 at the fact that the home is connected to municipal
2 water.

3 So you have an opinion on that issue,
4 don't you?

5 MS. JOSELSON: Object to the form.

6 A. I think that oversimplifies my comment.
7 My statement was that I believe firmly that the
8 increased cost of owning a home that has municipal
9 water -- in some of these cases. For some of the
10 North Bennington homes, it's actually less
11 expensive to be on municipal water, and I show
12 that. But for the homeowners who currently have
13 wells, the majority of them, they will see an
14 increased cost of operating their home. And I
15 firmly believe that will be capitalized into their
16 home value, consistent with appraisal science and
17 consistent with economics.

18 Q. Would it be legitimate for someone to
19 challenge your opinion by looking at surveys on
20 local Vermont residents and preference for
21 municipal water?

22 MS. JOSELSON: Objection.

23 A. I would have to see the analysis. I do
24 know that I don't -- I didn't see individuals
25 seeking to hook to the municipal system, so their

1 revealed preference did not indicate that. And I'm
2 also skeptical that someone could do an analysis at
3 this point because the presence of PFOA has made
4 the market different.

5 Q. Okay. That's a good time to switch to
6 that topic.

7 So your report states that there was
8 little interest among the affected groundwater
9 users in joining either municipal systems prior to
10 the event, and over the past decade only a small
11 number of connections were added to these systems,
12 and neither system reports having had many requests
13 for additional service. Is that correct?

14 A. That's correct.

15 Q. And based on this, you state that this
16 reflects the preference of these residents for well
17 water, the preference for having an independent
18 source of water, and the desire not to incur the
19 added cost of municipal water?

20 A. I'm providing some explanation for why
21 that -- that may have been. Well, we know it was
22 the case, and I'm providing explanation for why it
23 may have been the case.

24 Q. So let's say you're wrong. Is it possible
25 you're wrong about that assumption?

1 MS. JOSELSON: Object to the form.

2 A. It's possible there are other factors that
3 were in people's minds that led them to not want
4 municipal water over well water.

5 Q. Okay. And if we knew something about
6 those other factors in their minds, that would be
7 relevant to this analysis, wouldn't it?

8 MS. JOSELSON: Objection.

9 A. Well, I know that they have an increased
10 cost. So I -- no, it wouldn't relevant to my
11 analysis, because I know they're paying
12 out-of-pocket costs that are higher than they were
13 before.

14 Q. But if, in fact, residents prefer
15 municipal water, then they have no damages by the
16 fact that Saint-Gobain has provided for them to be
17 connected to municipal water free of charge?

18 MS. JOSELSON: Object to the form.

19 A. I think that would be a vast
20 overstatement. Their damages would -- that would
21 ignore the fact that they had exposure to PFOA and
22 they had a home with PFOA for years. It ignores
23 the fact they had to go on a POET system, and it
24 ignores the fact that this change was not one that
25 anyone was exhibiting prior to the event.

1 So I'm -- I'm very comfortable with the
2 concept that folks had a preference for well water
3 based on their -- these individuals had a
4 preference for well water based on their observed
5 behavior.

6 Q. So if those persons had a preference for
7 municipal water, then to know whether they had
8 damages or the amount of their damages, we would
9 need to know more about, as I said, how long PFOA
10 was in their water, and we would need to know more
11 about the costs of the POET. Is that correct?

12 MS. JOSELSON: Object to the form.

13 A. Not for my damages model. What I was
14 saying is that you made -- you made the statement
15 that someone might have felt better off being on
16 municipal water, and I question that assumption
17 that individuals would have chosen this path to
18 municipal water as one that's preferable to staying
19 on a well.

20 Q. You don't question that assumption. You
21 assume the opposite. Is that correct?

22 A. Yes. I assume that absent this event,
23 they would have stayed on well water.

24 Q. But if you're wrong about that assumption,
25 and if they do prefer municipal water, then to

1 determine their damages, you're telling me we need
2 to know more about these other factors for them
3 that affect the amount of their damages. Is that
4 correct?

5 A. Well, if I'm wrong on that, they are, too,
6 because they weren't requesting municipal water.

7 Q. So you talk about revealed preferences
8 there. Do you know what the preference of the
9 individual homeowners would be if they could obtain
10 a connection to municipal water at no out-of-pocket
11 cost as opposed to remaining on well water?

12 MS. JOSELSON: Object to the form.

13 A. What I do know is that there have been
14 residences added to Bennington -- the town of
15 Bennington over the decades who chose to go with
16 wells, who were in areas that could have accessed
17 municipal water but they still chose wells.

18 Q. Do you know the amount of those
19 individuals?

20 MS. JOSELSON: Object to the form.

21 A. No. That's based on interviews with the
22 municipal staff.

23 Q. And --

24 A. But, again, if you're assuming that
25 individuals would have preferred this path to

1 municipal water and that they are better off
2 because of that, I am very skeptical.

3 Q. Now, is it possible to test your
4 assumption?

5 A. That's a good question. I mean, you now
6 have a -- you have a new condition. I think it
7 would be difficult to build a reliable model in
8 Bennington to test that premise.

9 Q. Did you attempt to?

10 A. No. For that reason.

11 Q. Let's say we had a map prior to the
12 contamination -- excuse me -- prior to the presence
13 of PFOA -- let me strike that the question.

14 Let's say we had a map of the system of
15 municipal water in Bennington prior to the presence
16 of PFOA in the water.

17 A. So in the 1950s?

18 Q. No. Let me restart the question, then.

19 Let's say we had a map of the municipal
20 water system prior to the discovery of PFOA in the
21 water that showed all the areas in Bennington where
22 the municipal water system was available. And then
23 if we could look and see within that area how many
24 of the people who had ready and free access to the
25 system, what percentage of those people requested

1 to be connected to the municipal water.

2 Would that be a fair way of measuring the
3 frequency with which people who have access to the
4 water for free seek to be connected to the
5 municipal water?

6 MS. JOSELSON: Objection.

7 A. No. And part of that relates to what the
8 attributes of your property are that allows for a
9 well. So there's large parts of Bennington that
10 are too dense for folks to have individual wells.
11 So you'd have to control for the potential for
12 holding a well.

13 Q. Does it provide better data than your
14 assumption based on the conversation with the
15 municipal water staff?

16 A. Absolutely not. The conversation was --
17 gave me the fact that very few people were asking
18 to sign up. And that's the best data of all, which
19 is the revealed preference, not a model preference.

20 Q. Did they give any number for
21 quantification of that?

22 A. A handful.

23 Q. A handful is -- tell me how many a handful
24 is.

25 A. Both towns indicated that there were very

1 few instances of folks requesting to be hooked up.
2 And these municipal systems have been in place for
3 many years, so there was a lot of opportunity for
4 homeowners to do that.

5 Q. The individuals who chose to remain on
6 well water, did they have to pay costs in order to
7 be hooked up to the municipal system?

8 MS. JOSELSON: Object to the form.

9 A. My understanding is that they will be --
10 and I don't charge within my model. I don't
11 calculate damages for the cost of hookup, which,
12 for example, we did in Lockformer. So the cost --
13 the out-of-pocket cost of bringing water into the
14 home, it appears from the agreements, will be borne
15 by another party, not the household. There may be
16 other costs that individuals have, like their lawns
17 getting dug up and all that, but I didn't
18 incorporate that.

19 Q. So you're saying that it's not relevant to
20 the analysis at all that people would have to pay
21 in the ordinary course to be connected to municipal
22 water?

23 MS. JOSELSON: Object to the form.

24 A. Again, you have a -- this is a very long
25 time period over which they didn't see much demand

1 to be added to the system. So those costs would be
2 capitalized, and I would think if people had a true
3 preference for municipal water, we would have seen
4 a move in that direction.

5 You also -- if you were going to construct
6 a property model here the way you've described, I
7 would be constructing a property model of the
8 effect of PFOA as well. If you think you can
9 measure the value of the well, then you can measure
10 the value of the PFOA.

11 Q. Are you aware of how much Saint-Gobain is
12 paying to make these municipal connections to these
13 individuals?

14 MS. JOSELSON: Objection.

15 A. There's two numbers that are in the public
16 domain that I've seen, so I'm not -- I'm not
17 certain what the actual cost is. There's a
18 3-point-something-million-dollar number, and then
19 there's a \$20 million cap. I don't know what it's
20 actually costing. I don't think we know yet what
21 it's going to actually cost to put people on wells.

22 Q. Prior to the detection of PFOA in this
23 area, the homeowners who chose to stay on private
24 wells, would they have had to pay in order to be
25 hooked up to the municipal water system?

1 MS. JOSELSON: Object to the form.

2 A. As I understand it, they would, yes.

3 Q. Did you attempt to determine how much
4 they'd have to pay?

5 A. No.

6 Q. So would those costs affect their
7 preference for -- or affect determining whether
8 their preference was for municipal water or for
9 well water?

10 A. It could affect their preference, but over
11 the time period we're talking about here, I would
12 think that would be capitalized out. And some of
13 these are homes that were built during the time
14 there's been a water system, so they had to develop
15 a well, so they still chose to go with a well.
16 So . . .

17 Q. So Saint-Gobain is paying several millions
18 of dollars to connect all these individuals to the
19 municipal water supply?

20 A. As I understand it. I don't actually know
21 how many people have been hooked up yet, but as I
22 understand it, that's the agreement.

23 Q. So wouldn't it be more correct to say
24 whatever the preference of these individuals was,
25 that their preference for municipal water was not

1 as great as the cost it would take to be connected
2 to municipal water?

3 MS. JOSELSON: Objection.

4 Q. Would that be more accurate?

5 MS. JOSELSON: Object to the form.

6 A. I think we -- we know it is at least that
7 and it could be actually significantly higher. So
8 as I point out in my report, they may, in fact,
9 have been -- they might have required a
10 compensation to hook up to the municipal system
11 that exceeds my numbers. They might not have
12 wanted it. Which isn't to say that it's not great
13 that it's being provided. That's providing a
14 public health benefit. But they may not have
15 wanted it.

16 Q. But you don't know -- you don't have any
17 information about those individual preferences, do
18 you?

19 MS. JOSELSON: Object to the form.

20 A. I think I've already answered that several
21 times. So . . .

22 Q. Just to be clear, you don't know what
23 those individual preferences were for municipal
24 water or well water?

25 MS. JOSELSON: Objection.

1 A. I think I've answered that several times,
2 yeah.

3 Q. To be clear for the record, I'm not sure
4 you have answered it.

5 You don't know what those individual
6 preferences were for municipal water versus well
7 water?

8 A. What I do know is that very few
9 individuals were asking to be hooked up to the
10 municipal system and that that occurred over a very
11 long time period, and that those individuals
12 appeared by the fact that they purchased these
13 homes at some point that had well water and the
14 fact that they weren't then requesting to be added
15 to the municipal system, that there was a
16 preference for well water. That was an attribute
17 that they chose in a home.

18 Q. So that's what you do know, but I'm
19 interested in what you don't know, which is whether
20 those individuals preferred municipal water versus
21 well water.

22 MS. JOSELSON: Object to the form.

23 A. I think I just asked -- answered that.
24 And also, I think that that's framing the question
25 incorrectly from the but-for condition here. I

1 just don't think it's relevant.

2 Q. So --

3 A. It's an incomplete hypothetical.

4 Q. You're telling me that based on one
5 conversation that you had with a municipal utility
6 person who described a handful of municipal
7 connections, you have the power to authoritatively
8 ascertain and determine the preferences of all
9 thousand members, alleged members of this putative
10 class for well water over municipal water, and that
11 is authoritative and cannot be contradicted?

12 MS. JOSELSON: Object to the form.

13 A. It was several conversations, and it was a
14 fact that they were relaying, which is they've had
15 very few requests for additions. So the fact that
16 it was a conversation or a short conversation, it's
17 still a fact. And yes, I feel authoritative in
18 saying that folks prefer well water to municipal
19 water based on their behavior.

20 Q. Wouldn't another authority on this be the
21 individuals? If someone came in here and said,
22 "Sorry, Mr. Unsworth. I actually did prefer
23 municipal water," would that be a better authority
24 than your conversation with the municipal utility
25 administrator and your analysis of revealed

1 preferences?

2 MS. JOSELSON: Objection.

3 A. I would say that's actually the wrong
4 question to ask the person.

5 Q. What would be the right question?

6 A. "Would you have preferred not to have
7 contaminated groundwater and been able to continue
8 to use your well or would you prefer the current
9 situation, which is being required to go on
10 municipal water and to pay a water bill because of
11 contamination?" That is the correct measure of the
12 but-for condition.

13 Q. Would it be appropriate to ask that
14 question to the individual class members, putative
15 class members?

16 MS. JOSELSON: Object to the form.

17 A. Sure, but you'd have to ask them not -- if
18 you're asking the class members, I would also not
19 ask them what they would prefer. I would ask them
20 what would their required compensation be to make
21 that change.

22 Q. Okay. Because stated preferences are also
23 relevant to an economic analysis, not only revealed
24 preferences. Is that correct?

25 A. I prefer revealed preference over stated

1 preference.

2 Q. But a stated preference is relevant to
3 analysis, isn't it?

4 MS. JOSELSON: Objection.

5 A. Depends how it's asked and how it's
6 developed.

7 Q. Economists do consider stated preferences
8 as relevant to such an analysis, don't they?

9 A. It's very difficult to do, but in the
10 absence of revealed preference, you might consider
11 stated preference.

12 Q. And so it would be appropriate to ask
13 those individual putative class members the
14 question that you just described as additional data
15 on this question?

16 A. I would say no. I wouldn't do that.

17 Q. Why?

18 A. Because I have their revealed preference,
19 and I also can't ask an objective question about
20 preferences for well water over municipal water
21 given the situation.

22 Q. Isn't that kind of paternalistic for you
23 to say that based on your conversation with the
24 municipal utility administrator, you know
25 everyone's preferences in this area better than

1 they do?

2 MS. JOELSON: Objection.

3 A. I wouldn't use the term "paternalistic."
4 I would say that as an economist, I view revealed
5 preference to be a better measure of damage than
6 stated preference, and we only use stated
7 preference when we can't get a revealed preference.
8 We do -- we do use stated preference. We're forced
9 to use it in situations where we do not have a
10 revealed preference.

11 And I don't -- I would not consider it
12 paternalistic. I would consider it analysis.
13 So . . .

14 Q. So you're saying you know what's best for
15 them?

16 MS. JOELSON: Object to the form.

17 A. Absolutely not. I'm not saying that at
18 all.

19 Q. You know what they like best?

20 MS. JOELSON: Object to the form.

21 A. I'm not saying that, either.

22 MR. WILSON: Would you mark this as
23 Exhibit 8.

24 (Unsworth Exhibit 8 marked for
25 identification.)

1 BY MR. WILSON:

2 Q. I've just handed you what's been marked
3 for identification as Exhibit 8 to your deposition.

4 Can you tell me what this is?

5 A. It seems to be a declaration by what I
6 presume to be one of the class members.

7 Q. Did you review this in connection with
8 formulating your opinion in this case?

9 A. I may have seen this. I don't remember
10 reviewing it for my opinion.

11 Q. So take a look at paragraph 7 of this
12 declaration. Mrs. Crawford says, "I have a unique
13 medical issue which causes me concern about being
14 connected to the Bennington municipal water system.
15 I have a hypersensitivity to fluorine (fluoride).
16 Ingesting fluoride has led to angioedema, which has
17 required emergency treatment including injections
18 of epinephrine. There is ongoing effort by a group
19 of individuals in Bennington to fluoridate the
20 municipal water supply. If this were to happen, I
21 would be put in the position of my home water
22 supply being contaminated by a chemical that would
23 do me great harm."

24 Did I read that correctly?

25 A. Mm-hmm. Yes.

1 Q. And you did not consider this declaration
2 in the course of forming an opinion, did you?

3 A. It didn't affect my opinion. I do
4 remember reading that, but . . .

5 Q. Did you -- you do remember reading this?

6 A. Yeah. I had never heard before of a
7 hypersensitivity to fluoride, so it was an
8 interesting thing to read.

9 Q. But you didn't list this declaration in
10 the materials that you considered in your reports,
11 did you?

12 A. I don't think I relied upon it, no.

13 Q. But you reviewed it?

14 A. I may have reviewed it or I may have heard
15 that. I'm not sure -- I'm not sure I read this. I
16 don't remember the angioedema or the ephedrine --
17 epinephrine.

18 Q. So this was material you reviewed in the
19 course of forming your opinion but you did not
20 disclose in your reports?

21 MS. JOSELSON: Object to the form.

22 A. I think my knowledge of this actually came
23 from a conversation with the attorneys who
24 mentioned it.

25 Q. But you did read it?

1 A. I don't --

2 MS. JOSELSON: Object to the form.

3 A. I don't know if I did, actually. I'm not
4 sure if I remember reading this. It may have been
5 in the pile; it may not have been. I just don't
6 remember.

7 Q. You testified earlier that you do remember
8 reading this, yeah.

9 So do you remember reading this or do you
10 not remember reading this?

11 A. I remember the story. I'm not sure I
12 remember reading this. So . . .

13 Q. Is there anything else in your -- that you
14 reviewed in the course of forming your opinions in
15 this case that you haven't disclosed to us?

16 MS. JOSELSON: Object to the form.

17 A. No. We turned over everything we had. So
18 if it's not in that pile, it wasn't -- I didn't
19 have it on paper.

20 Q. Is Mrs. Crawford's preference to remain on
21 well water relevant to your economic analysis?

22 A. It would mean my economic analysis is
23 understating her damages.

24 Q. So it is relevant?

25 A. It would be one of the factors, just as I

1 state in my report, that would cause me to
2 underestimate damages.

3 Q. And it should be considered?

4 MS. JOSELSON: Object to the form.

5 A. Well, I didn't say that. I said there
6 were a variety of factors that would cause me to
7 underestimate damages. Those factors may be hard
8 to get at a value for.

9 Q. And to know and evaluate Mrs. Crawford's
10 damages, what other information would we need to
11 have?

12 MS. JOSELSON: Object to the form.

13 A. If you wanted to -- if she is, in fact,
14 being required to join the municipal system, I've
15 incorporated her costs of doing so. Presumably
16 there would -- might need to be some assurance that
17 she could treat her water to avoid this. I don't
18 know. I didn't incorporate it. It would be in
19 addition to what my damages are, but I don't know
20 how I would measure it.

21 Q. And it's possible that there are other
22 class members similarly situated to Mrs. Crawford
23 who might also have different damages than your
24 model. Is that correct?

25 MS. JOSELSON: Object.

1 A. They would have the same damages that are
2 in my model and then some.

3 Q. And we would need to know more information
4 about their unique circumstances in order to
5 evaluate those damages, wouldn't we?

6 MS. JOSELSON: Object to the form.

7 A. If you were to include, for example, the
8 cost of assuring that she has a clean supply of
9 water, that would be in addition to that.

10 Q. And we would know in Mrs. Crawford's -- we
11 would need to know in Mrs. Crawford's case how
12 likely it is that the Bennington water supply will
13 become fluoridated. Is that correct?

14 MS. JOSELSON: Object.

15 A. I think it would -- I don't know if it
16 would be possible to know. That's a future
17 situation. I don't know if it would be possible to
18 know that.

19 Q. Don't we take into account contingent
20 events and their likelihood in making an economic
21 damages analysis?

22 MS. JOSELSON: Object to the form.

23 A. If you can quantify them and if they
24 matter to the analysis. So for my damages, this
25 doesn't matter to the analysis. The cost increase

1 is the same. And I would only incorporate a
2 contingent event if I had some reasonable basis on
3 which to predict it.

4 Q. So you're saying that Mrs. Crawford has
5 additional and different damages that your model
6 does not address, very unique to her?

7 MS. JOSELSON: Object to the form.

8 A. It sounds as though she may have concerns
9 that are the concerns of the type that led people
10 to have well water, and it would have to be
11 measured. But it wouldn't make my damages go down.
12 It would only make them go up.

13 MS. JOSELSON: It's been an hour in. Let
14 me know what your thoughts are.

15 MR. WILSON: When do you want to break for
16 lunch?

17 MS. JOSELSON: Your choice. Everyone's
18 choice.

19 MR. WOLFF: Let's go off the record and
20 talk about it.

21 MR. WILSON: Off the record for a moment.

22 THE VIDEOGRAPHER: The time is
23 approximately 11:15 and we are off the record.

24 (Recess taken from 11:15 to 11:23 a.m.)

25 THE VIDEOGRAPHER: We are back on the

1 record. The time is approximately 11:23 and
2 this is the beginning of Media No. 3.

3 Counsel, you may proceed.

4 BY MR. WILSON:

5 Q. So, Mr. Unsworth, your opinion on added
6 cost for the putative class members depends on the
7 water rates that they will pay for municipal water.
8 Is that correct?

9 A. That's one of the factors.

10 Q. Now, among other things, individual water
11 usage will differ from household to household based
12 on differences in household size. Is that correct?

13 MS. JOSELSON: Object to the form.

14 A. That could be correct, yes.

15 Q. And among other things, individual water
16 usage will differ from household to household based
17 on differences in property size. Is that correct?

18 A. Possibly, yeah. Bennington's a relatively
19 damp area, but it may.

20 Q. And among other things, individual water
21 usage will differ from household to household based
22 on differences in idiosyncratic usage patterns. Is
23 that correct?

24 MS. JOSELSON: Object to the form.

25 A. Without any value judgment given to

1 idiosyncratic, yes.

2 Q. Now, your merits report states that the
3 water rates is generally a flat charge per quarter,
4 but for some water customers in the town of
5 Bennington and all water customers in North
6 Bennington, the rate is based on usage. Is that
7 correct?

8 A. In part, yes. There's a -- also a capital
9 fee in North Bennington.

10 Q. So usage is relevant to the amount that
11 people will pay for their water in Bennington and
12 North Bennington. Is that correct?

13 A. No, that's not correct. The -- most
14 residences in Bennington are on the flat-rate
15 system and they're encouraging the new connections
16 to go to the flat-rate system. So that is
17 generally considered a better deal because it's
18 predictable. And so, in Bennington, usage won't
19 matter.

20 Q. Is most all?

21 A. Most is not all.

22 Q. The fact that the government encourages
23 something, does that mean people will follow the
24 encouragement?

25 MS. JOELSON: Objection.

1 A. I don't know about that. But I do know
2 that most residences already are on the flat-rate
3 system.

4 Q. Now, to someone who has high water
5 usage -- say a family of seven with a washer and
6 dryer and a sprinkler system -- paying the flat
7 rate is advantageous, isn't it?

8 A. I would -- I would assume so. I don't --
9 yeah, within that hypothetical, yes.

10 Q. For a single man living in an apartment
11 with no washer and dryer, no lawn, paying the flat
12 rate is not advantageous, is it?

13 MS. JOSELSON: Objection.

14 A. It may not be. It depends on their water
15 use. But you actually -- we looked at the
16 distribution and we back-calculated -- I didn't
17 include it in the report, but I back-calculated how
18 much water you'd have to use for the flat rate to
19 make sense, and it's not a great deal of water.

20 So it's a good deal, and I think it's
21 being offered as a good deal because there's less
22 work for the municipality in terms of pricing.
23 It's not a particular good mechanism for
24 discouraging water use, but it's what they do.

25 Q. Some people don't pay the flat rate, do

1 they?

2 A. Some people by -- as I understand it, by
3 sort of a dint of history, have a meter and choose
4 to pay by the gallon.

5 Q. Do you have any basis for predicting that,
6 going forward, all persons who can select the flat
7 rate will?

8 MS. JOSELSON: Object to the form.

9 A. The -- sorry, I forget the name of the
10 town manager of the water system, but he felt that
11 most people would choose the flat rate and he
12 thought that was a better deal for them. And if
13 you look at the documents that have been provided
14 to the potential members of the system being added
15 to the system, it effectively encourages them to go
16 with a flat rate.

17 I would also say that the characteristics
18 of this year's water consumption would only be 1
19 out of 99 or 1 out of 30, depending on which time
20 period you pick. So it would vary with time as
21 well.

22 Q. Have you studied any of the economics
23 literature on government encouragement for people
24 to participate in behavior that the government
25 deems good?

1 MS. JOSELSON: Objection.

2 A. I've actually done quite a bit of work on
3 the use of pricing to discourage water consumption.
4 It comes up in a lot of our work.

5 Q. But this is pricing that encourages water
6 consumption?

7 A. You could argue that. Or at least it
8 doesn't discourage it. I'm not sure why -- I'm
9 sure nobody is leaving the tap on for fun. But
10 it's not a -- having a fixed rate does not
11 encourage using less water.

12 Q. Are you aware any literature that would
13 support an opinion that 100 percent of those who
14 can select the flat rate will select the flat rate?

15 MS. JOSELSON: Object to the form.

16 A. So, interestingly, in the Atlanta area, I
17 worked on a case between Atlanta and Florida on
18 water usage, and there were two factors relevant to
19 this. One is that a lot of the older neighborhoods
20 were, in fact, on flat rate, and people generally
21 didn't want to move to a metered system.

22 In addition, more so now than before,
23 people pay their bills electronically, and so
24 people in effect don't know what they're paying.
25 It just gets withdrawn from their account and

1 they're not paying attention to it. So . . .

2 Q. And does everyone do that?

3 A. No.

4 Q. No.

5 So if someone doesn't select the flat
6 rate, then they will have a different quantum of
7 damages than is estimated in your report under your
8 methods, because the rate that they're paying for
9 municipal water is lower?

10 MS. JOSELSON: Object.

11 A. And, similarly, someone who decides to use
12 a meter and winds up using more would incur a
13 different -- so there's some -- we talked about
14 precision before, so there's some issues of
15 precision, not being able to perfectly predict the
16 future.

17 Q. And --

18 A. But I would expect that those individuals
19 may -- may choose to go with the metered water use.

20 Q. And there's variability as well as
21 precision. Is that correct?

22 MS. JOSELSON: Object to the form.

23 A. Within my model, it would be a question of
24 precision because I have assumed an average. So in
25 North Bennington, I have assumed an average. So

1 I've taken the current average consumption and
2 imposed that on those water users.

3 Q. So let's just talk about your model, big
4 picture. Your model purports to describe the total
5 damages experienced by the putative class and
6 various informally defined subclasses. Is that
7 correct?

8 MS. JOSELSON: Objection.

9 A. Without the word "total."

10 Q. It does not purport to describe the
11 damages of any individual within that putative
12 class, does it?

13 MS. JOSELSON: Object.

14 A. Well, I think it does estimate damages for
15 individuals within the class, yes.

16 Q. But if we had more information about any
17 individual in the putative class, we could come to
18 a more precise and potentially more accurate
19 measure of damages for that individual. Is that
20 correct?

21 MS. JOSELSON: Object.

22 A. And if you could see the future, that also
23 might be correct. But we can't. So we measure it
24 as best we can based on reliable and appropriate
25 information.

1 Q. But we can get other specific information
2 like Mrs. Crawford's declaration that tell us about
3 her unique circumstances, that provide us with more
4 particularized information that might allow us to
5 have a more accurate and more precise picture of
6 the damages of an individual class member. Is that
7 correct?

8 MS. JOSELSON: Object.

9 A. I think what I said before is that
10 information about Ms. Crawford would provide
11 me with more -- could provide me with a more
12 complete measure of damage.

13 So I'm not currently estimating total
14 damages. I'm estimating damages in three
15 categories. So I don't -- I don't get at other
16 categories of damage.

17 Q. And so if we have individualized
18 information about these putative class members, we
19 could find that some class members have lower
20 damages than is estimated in your report under your
21 methods, and some class members have higher damages
22 than is estimated in your report under your
23 methods?

24 A. I think we --

25 MS. JOSELSON: Object to the form.

1 A. I think we won't know for sure till the
2 future plays out. What I provide is a reasonable
3 basis using typical calculations of what I think
4 the losses will be -- reasonable estimate of losses
5 to these individuals will be.

6 Q. Are there any dangers to using averages,
7 methodologically?

8 A. Well, it depends on the -- depends on the
9 problem. I'm not sure what "danger" means and I'm
10 not sure what the problem would be.

11 Q. Are there any problems of either accuracy
12 or precision in using averages?

13 MS. JOSELSON: Object to the form.

14 A. I think that typically within my work, I
15 am looking at information that's known with some
16 level of precision, and often with environmental
17 damages, we're dealing with future conditions that
18 are unknown until they occur. And so we use
19 averages because we expect on average we will be
20 correct. And there are also -- you know, as far as
21 the water bill issue goes, it depends on how the --
22 how much is recovered and how those recoveries are
23 provided. And it also depends on the nature of
24 those homes in the future.

25 So there's a lot of -- you know, we're

1 providing a reasonable estimate based on the best
2 available information.

3 Q. Doesn't the propriety of using an average
4 depend upon the variability of the data set?

5 MS. JOSELSON: Object.

6 A. It might. You may not have confidence in
7 the average. It also would depend on the shape of
8 the distribution.

9 Q. Did you look at the shape of distribution
10 for any of the data that you averaged in this case?

11 A. So we -- what we did is we asked to North
12 Bennington, which doesn't have a flat-rate system,
13 how much variability they have in their water
14 usage. And if you take out nonresidential
15 properties, they actually don't experience a great
16 deal of variability.

17 Q. How much variability is it?

18 A. He didn't quantify it, but he said there's
19 not that much variability household to household.

20 Q. And you didn't ask him to?

21 A. No.

22 Q. But if we looked at that data, we could
23 come up with a better picture of what the actual
24 losses would be to an individual putative class
25 member using your methodology?

1 MS. JOSELSON: Object.

2 A. You might be able to get more precise for
3 the current condition. Again, we're going out 99
4 years here for the property, so I'm not sure it
5 would be actually more accurate. The average may
6 actually be more accurate than the current year.

7 Q. But if we go out longer periods of time,
8 doesn't even a small difference multiply into a big
9 difference over time?

10 A. No. You would move towards the average
11 over time.

12 Q. Well, I mean --

13 A. So if a residence was unusual, the
14 residents prob -- those individuals wouldn't be
15 there for 99 years, so you would move back towards
16 the average.

17 Q. I mean, over time if there's a difference
18 of \$100 a month between two different individuals
19 and their water rates, multiplying that by 12
20 months and then 99 years and then to present value,
21 you're going to end up with a big difference,
22 aren't you?

23 MS. JOSELSON: Object.

24 A. If what you were trying to calculate is
25 that one number, yes. But, again, if you're taking

1 average, you would also have individuals that fall
2 on the other side of the distribution. And so it
3 would -- it may not make a difference.

4 Q. So under your model, or under your
5 methodology, someone who paid -- would pay a lot
6 for municipal water should have greater damages
7 than someone who pays a little bit for municipal
8 water, assuming the same costs of well operation.

9 MS. JOSELSON: Object to form.

10 Q. Is that correct?

11 A. It would depend on how you compensated
12 them. So . . .

13 Q. But if we're compensating them based on
14 the difference between municipal water costs and
15 well costs, then someone who pays more for
16 municipal water should have more damages than
17 someone who pays less for municipal water, under
18 your model?

19 A. My model calculates the damage. It
20 doesn't calculate distribution of the damages.

21 So the individuals -- you could compensate
22 the individuals differentially or you could provide
23 compensation in the form of reduced water bills
24 across the class.

25 Q. Okay. So how would we compensate -- how

1 would we determine the distribution here? Once you
2 determine the total amount, how do we determine how
3 to distribute that amount to the putative class
4 members?

5 MS. JOSELSON: Object to the form.

6 A. I haven't been asked to do that, but in
7 other similar situations, we have factors that we
8 use to distribute it.

9 Q. What factors would those be?

10 A. It could have to do with -- well, I mean,
11 in this case, I think probably what I would
12 encourage would be a system that compensates people
13 through the municipal water system, so you don't
14 have to pay each individual over time. You would
15 just -- you know who has joined the system and you
16 would discount their water.

17 Q. But in this case, where the municipal
18 water system isn't a party to this case that we can
19 make them take any kind of action, where it's just
20 private individuals, what information do we need to
21 know about those private individuals to determine
22 how they should be distributed?

23 MS. JOSELSON: Object to the form.

24 A. So I don't know if that first part is
25 true. You may be right. I don't know. I don't

1 know whether we're not able to use the municipality
2 as the mechanism.

3 I would say based on what I know right
4 now, I would use the factors that are in my model,
5 which is which town they're in and whether or not
6 they had a water softener, which relates to how
7 deep their well is.

8 Q. But if someone comes in and they say,
9 "Mr. Unsworth, I have a -- I pay a lot for
10 municipal water because I've got a -- I've got
11 seven kids and a washer/dryer and a lawn, and your
12 model is only giving me an average, and over time
13 that's not enough," is that fair and appropriate to
14 give that person the average?

15 MS. JOSELSON: Object to the form.

16 A. If it's paid as a one-time payment, it may
17 be, because they're not going to be in that
18 situation forever. So it's a present value of a
19 series of future damages.

20 On average, it will be correct. That's
21 the beauty of the average.

22 Q. But whether it's correct on average
23 doesn't -- again depends on the distribution of the
24 data?

25 MS. JOSELSON: Object.

1 A. I have no reason to believe that this is
2 not a normally distributed data set.

3 Q. So let's talk about the other side of your
4 added cost model, which is the costs of operating a
5 well.

6 Your opinion on added cost damages is
7 based on what you determined to be the difference
8 between the cost of municipal water and the cost of
9 operating a well. Is that correct?

10 A. That's correct.

11 I would probably say having a well as your
12 source of water, not -- the operations costs are a
13 piece of those calculations.

14 Q. Did you attempt to explore whether those
15 costs are variable among proposed class members?

16 A. I did -- I did do that. That's what my
17 model does.

18 Q. In what ways does it explore those
19 differences?

20 A. There's a pretty significant cost of
21 having a water softener, for having the equipment
22 and having the operations of it. And so that's --
23 that differs across the class.

24 Q. So you found one cost to be variable among
25 class members, and that was the water softener?

1 A. And the need to test water.

2 Q. So two costs you determined were variable.
3 Is that correct?

4 A. That's right. That's right.

5 Well, and as mentioned, the water rates
6 North Bennington are extremely low by comparative
7 sake, and so that's taken into account as well.

8 Q. If there were additional variations among
9 class members, would that affect your opinion on
10 class certification?

11 MS. JOSELSON: Object to the form.

12 A. No. I would say I still believe that
13 they're -- the preponderance of the factors are
14 similar and the average is correct.

15 Q. Doesn't the use of averages overcompensate
16 some putative class members and undercompensate
17 others?

18 MS. JOSELSON: Object.

19 A. For this particular category of damage or
20 for their overall loss?

21 Q. Overall.

22 A. Overall, I would say my calculations are
23 undercompensating everyone.

24 Q. But simply looking at the use of averages,
25 that methodological decision that you made, that

1 means you will be overcompensating some individuals
2 and undercompensating others. Is that correct?

3 MS. JOSELSON: Object.

4 A. I think we've already talked about that,
5 and I think on average over the time period of the
6 analysis, it will be a sound measure and something
7 we would typically use in my business.

8 Q. On average, a sound -- so you're saying on
9 average, averages do the job?

10 MS. JOSELSON: Object to form.

11 A. If on -- on average, I believe this is a
12 reasonable measure of the added costs to the
13 members of these communities.

14 Q. What comfort is that to someone who has
15 been undercompensated by the use of an average?

16 MS. JOSELSON: Object to the form.

17 A. So assuming someone out there has a
18 substantially lower cost of operating a well, for
19 example, and you think their damages are higher,
20 presumably they'd opt out of the class. They
21 wouldn't feel fairly compensated if they believed
22 that.

23 Q. Do you agree that among the costs for a
24 groundwater well is the cost of an annual
25 maintenance inspection?

1 A. No.

2 Q. Would you agree that among the costs for a
3 groundwater well would be water tests?

4 A. I include that.

5 Q. Would you agree that among those tests
6 would be a test for bacteria?

7 A. That's what this test is.

8 Q. Would you agree that among those water
9 tests would be one for inorganic chemicals?

10 A. So we -- folks can do that. You can
11 submit a packet to Vermont. And in conversations
12 we had with Vermont, very few Vermont residents
13 choose to submit those tests on a regular basis.

14 Q. Would you agree that among those water
15 tests would be one for gross alpha radiation?

16 A. Some people do do radon tests,
17 particularly when you're selling a home. So you
18 take a sample from the tap and you send it in.
19 That's not something that people typically do once
20 they're in a home. It's typically required by the
21 Realtor or by the -- when they sell the home.

22 Q. Should damages be determined for the class
23 based on what people typically do or based on
24 what's recommended?

25 MS. JOSELSON: Object to the form.

1 A. What people typically do.

2 Q. So if one individual does a radon test
3 every year on his well, then that should be
4 accounted for in the determination of his damages.
5 Is that correct?

6 MS. JOSELSON: Object.

7 A. I don't know why anybody would test radon
8 every year. It's not the kind of water problem
9 that arises year to year. It's typically
10 associated with your source water and you typically
11 do it when you sell a home, because the mortgagee
12 or the mortgage lender wants to know.

13 Q. Suppose someone with a unique sensitivity
14 tests for radon. It doesn't have to be every year,
15 but they test for it every five years.

16 Should that -- those unique circumstances
17 be accounted for in determining their added cost
18 damages under your model?

19 MS. JOSELSON: Object.

20 A. If I had data on that, I could include it,
21 but I also would ask whether folks are testing the
22 municipal water year to year to see, for example,
23 if they have lead problems or salt problems.

24 Q. And this would be the same for those who
25 choose to perform the test for inorganic chemicals.

1 Is that correct?

2 MS. JOSELSON: Object.

3 A. I would ask the same way. We'd have to --
4 if I was going to include all those tests that are
5 infrequent, I would also, for example, see whether
6 people test their municipal water.

7 Q. So -- and why did you choose only to
8 include the tests for bacteria but not these other
9 tests?

10 MS. JOSELSON: Object to the form.

11 A. Because in conversations with the state --
12 so Vermont's a little unique. You can order a kit
13 and you can order several different kinds of kits.
14 So we simply ask them which kits most people buy,
15 and most people who are doing the water testing buy
16 the bacteriological kit. I'm actually
17 overestimating the frequency with which people do
18 that. Usually people do it -- excuse me -- when
19 they have a problem. Not every year.

20 Q. So people -- the use of testing by all
21 these individuals in the class is going to be
22 variable. Is that correct?

23 MS. JOSELSON: Object.

24 A. It will be, but I think the number here is
25 reasonable, given what we understand that --

1 Q. And what was --

2 MS. JOSELSON: Wait. I'm not sure he
3 finished.

4 Did you?

5 A. I was saying I think it's reasonable,
6 given what we understand about how many folks and
7 what types of kits they submit to the state.

8 Q. And do you have any data on how frequently
9 these tests are performed?

10 A. Not for -- not for Bennington. The state
11 wasn't willing to provide that information for
12 Bennington.

13 Q. For North Bennington, do you have data?

14 A. Not for the well users, no. And I don't
15 know if it's available.

16 Q. So do you have --

17 A. I'm not sure the state distinguishes the
18 two towns in their response to that question.
19 But -- I'm not sure.

20 Q. So your decision to include one of these
21 tests in your model but not the others was not
22 based on data but just based on an informal
23 conversation with the utilities. Is that correct?

24 MS. JOSELSON: Object.

25 A. It was based on formal questions we asked

1 of the utilities and the answers we got.

2 Q. But it was not based on data?

3 MS. JOSELSON: Object.

4 A. They did not -- they were not willing to
5 provide the data on number of samples that are run.

6 Q. So you tried to obtain data on the number
7 of tests for inorganic chemicals in Vermont?

8 A. As I said, there are a variety of packs
9 you can get for testing. And we asked whether data
10 on that were available, and they said no, but they
11 did say that it's unusual for folks to buy the more
12 expensive pack, except when they're selling a home.

13 Q. So you attempted to obtain this data and
14 it was not available?

15 A. That's correct.

16 Q. So you just picked one test to use in your
17 model but not the others?

18 MS. JOSELSON: Object.

19 A. For the reasons I stated. And I would say
20 that an awful a lot of people don't test their well
21 water at all.

22 This is not an average. This is the cost
23 of the bacteriological test imposed on all the
24 people in those particular categories.

25 Q. When you say imposed on all those people,

1 what do you mean?

2 A. Imposed on the calculations. It assumes
3 they're doing it.

4 Q. So you're assuming that everyone will do
5 that test, even though you know that not everyone
6 does?

7 MS. JOSELSON: Objection.

8 A. That's right. Because it -- because it
9 makes the damages number smaller. Conservative.

10 Q. And you're assuming that no one will do
11 the test for inorganic chemicals even though you
12 know some do?

13 A. That is not incorporated into my analysis.

14 Q. And you're assuming that no one will do
15 the test for gross alpha radiation even though you
16 know that some do?

17 A. That's correct. I didn't see it as an
18 annual cost that would be recurring.

19 You also mentioned that some people may
20 have a sensitivity to radon. I'm not aware of that
21 as a physical phenomenon.

22 (Unsworth Exhibit 9 marked for
23 identification.)

24 BY MR. WILSON:

25 Q. The court reporter is handing you what has

1 been marked for identification as Exhibit 9.

2 Have you seen this before?

3 A. I'm not sure I've seen this exact same
4 thing. I own a home in Vermont, so I'm familiar
5 with the information the Department of Health
6 provides. But I'm not sure -- I'm not sure this
7 was in our --

8 Q. And just to be clear, your home is not in
9 Bennington or North Bennington, is it?

10 A. No, it is not.

11 Q. Okay. Just want to make sure the expert
12 is not a class member.

13 A. No.

14 Q. So do you see that it says, in the top
15 section there, that total coliform bacterial test
16 is recommended every year?

17 A. Yeah. "Coliform."

18 Q. The inorganic chemical test is recommended
19 every five years, and the gross alpha radiation
20 screen is recommended every five years?

21 A. Yes.

22 Q. I read that correctly?

23 A. Yes.

24 Q. Do these recommendations by the Vermont
25 Department of Health change anything about your

1 opinion either on whether these tests should be
2 included in your model or how frequently they're
3 performed?

4 A. No. I think it's interesting that that's
5 what they're recommending. But we asked a
6 different question, going back to the revealed
7 preference, which is how often do people really do
8 this. And it's not done frequently.

9 Q. And you're determining real -- revealed
10 preference based on the statement of individuals at
11 the water utilities?

12 A. No. At the state department of health.

13 Q. At the state. Okay.

14 And --

15 A. We did ask about that. I'm familiar with
16 these tests, and we asked do people do these on a
17 regular basis, and they said they recommend that.
18 And I said, "Well, do people actually do it?" And
19 they said based on the numbers they receive, no.

20 Q. But you included the total coliform
21 bacteria for everyone in your analysis, didn't you?

22 A. No. We didn't include -- include it for
23 the folks who don't use softener. So . . .

24 Q. Because it's only necessary for those who
25 use a softener? Is that your --

1 A. No. It's related to the depth of the well
2 and also the effect of having a -- the water
3 softening equipment in the homes to us seemed like
4 more likely that people would be -- would be doing
5 the test.

6 Q. So those are your approximations or
7 guesses about who is going to be doing these tests?

8 MS. JOSELSON: Objection.

9 A. Based on -- based on talking with the
10 water utilities and talking with the state folks
11 about whether they're likely to see problems in
12 their water, et cetera.

13 Q. And if we had information or data about
14 which individuals actually do these tests and how
15 frequently they do them, we'd have a measure of
16 damages that would be both more accurate and more
17 precise under your methods.

18 MS. JOSELSON: Object.

19 Q. Is that correct?

20 A. You may, or you may find the average is
21 represented here. We don't know.

22 Q. And you don't know until you look. Is
23 that correct?

24 MS. JOSELSON: Object.

25 A. We don't know, but I don't have reason to

1 believe that that's a factor that causes my number
2 to be incorrect.

3 Q. And you don't have reason to believe,
4 because you didn't look?

5 A. No. We did look and we got information
6 about how frequently people do these things.

7 Q. But you don't have data?

8 A. Did not get data from the state on that.

9 Q. So you included a well pump and expansion
10 tank as expenses that would be required -- let's
11 start that question over.

12 You included a well pump and expansion
13 tank as expenses that would be required for
14 operation of a well to offset against the cost of
15 municipal water. Is that correct?

16 A. That's correct.

17 MR. WILSON: Exhibit 10.

18 (Unsworth Exhibit 10 marked for
19 identification.)

20 BY MR. WILSON:

21 Q. The court reporter has handed you what's
22 been marked for identification as Exhibit 10.

23 With apologies for the nature of Excel
24 printouts, can you tell me what this is?

25 A. It appears to be the spreadsheet that we

1 provided that do some of the calculations.

2 Q. And if you look at the second page of this
3 printout, you'll see a number of URLs and then
4 numbers next to them, dollar amounts.

5 Are these the sources that you used to
6 determine the amount and frequency of the expenses
7 of a pump and a tank?

8 MS. JOSELSON: Object.

9 A. Sorry. The format is getting me.
10 Can you point to where you're looking at?

11 Q. It's second page of the printout, I
12 believe. It's double-sided. It might be the back
13 of the first page.

14 A. So the page that starts with "factor" at
15 the top?

16 Q. I don't see "factor." You know, I think
17 mine might be slightly different. Okay.

18 Oh.

19 MS. JOSELSON: My second page is
20 different.

21 Q. Yeah. It looks like it's -- in your
22 version it's the -- the first page.

23 A. So these are -- these are the sources we
24 stuck in the spreadsheet. I'd actually have to go
25 back and look at the text and our other files to

1 see if there were other sources. I believe there
2 were -- typically there was more than one source
3 for the -- for each factor. So this --

4 Q. Are these sources that are listed in your
5 damages spreadsheet identified as sources in your
6 report?

7 A. I'm not sure about that. I think if they
8 were in the spreadsheet, we may not have included
9 them in the report. So . . .

10 Q. To the extent there were other sources,
11 they're not identified either in your report or in
12 your spreadsheet. Is that correct?

13 MS. JOELSON: Objection.

14 A. They may be a document or an item in the
15 pile that we gave you. The intention was to
16 identify them in the report or in the -- or in the
17 source spreadsheet. But there may have been an
18 item that was in the paper.

19 Q. What method did you use to select or
20 identify these articles as the basis for
21 determining the expenses for operation and
22 replacement of a pump and tank?

23 A. So we looked at a variety of sources
24 online, including these websites that help
25 homeowners understand the cost of owning a well or

1 of doing a repair, and then we triangulated those
2 to make sure that we weren't seeing variation. If
3 we were seeing variation, we tended to select the
4 higher cost or the more frequent replacement. And
5 then we also compared it to, you know, expected
6 total costs of operating the well, for example, the
7 work we did out in Lockformer, you know, whether it
8 made sense.

9 MR. WILSON: We'll go with Exhibit 11
10 here, please.

11 (Unsworth Exhibit 11 marked for
12 identification.)

13 BY MR. WILSON:

14 Q. The court reporter has handed you what's
15 been marked for identification as Exhibit 11.

16 Can you tell me what this is,
17 Mr. Unsworth?

18 A. It looks like an article from the Chicago
19 Tribune on pressure tanks.

20 Q. Can you tell me whether this is the
21 article from the Chicago Tribune that's cited in
22 your damages calculation spreadsheet?

23 A. It appears to be. One of the articles.

24 Q. So you see -- the second sentence of the
25 second paragraph of the article says, "The water

1 tank requires annual maintenance. If the storage
2 tank isn't serviced annually, not only is the
3 pressure tank at risk, but your water pump is at
4 risk as well."

5 Did I read that correctly?

6 A. Yes.

7 Q. And do you agree with that document?

8 A. I'm not an engineer, so I'll take it at
9 face value.

10 MR. WILSON: We can go up to 12 now.

11 (Unsworth Exhibit 12 marked for
12 identification.)

13 BY MR. WILSON:

14 Q. The court reporter handed you what's been
15 marked as Exhibit 12 to your deposition.

16 Is this also one of the articles that you
17 relied on?

18 A. It appears to be.

19 Q. Do you see where on the third page at the
20 bottom, it says, "It's a good idea, well experts
21 say, to schedule regular well maintenance. An
22 annual inspection should cost 100 to \$120."

23 Did I read that correctly?

24 A. You did.

25 Q. And do you agree with that statement?

1 A. I'm not a well expert, and I don't know
2 if -- I don't know if that's a good idea. It
3 sounds like it is. From the folks who wrote this
4 article, it is. Presumably those are folks who
5 provide well maintenance services. So . . .

6 Q. And you would have to basis to disagree
7 with that statement?

8 MS. JOELSON: Objection.

9 A. I don't have a basis to disagree with it,
10 but I would say that to the extent that someone
11 incurs these costs, their well would -- pump would
12 last longer. And we're going with averages, so it
13 would reflect the average of whether people do
14 annual well maintenance.

15 I can tell you the sample of one, I
16 haven't done well maintenance on 20 years on my
17 well, so I don't know whether that statement is
18 correct. It's not correct for me. So . . .

19 Q. An example perhaps of the fact that even
20 rational actors don't always follow what's
21 recommended?

22 A. At 100 to \$120 a year, I would argue,
23 actually, that wouldn't be rational to . . .

24 Q. Now, just right after that paragraph that
25 I read, it says --

1 A. You're also assuming economists are
2 rational. That's a totally different issue.

3 Q. You talk about rational actors, but you're
4 not necessarily rational yourself? Is that the --

5 A. I don't know whether anyone's rational
6 being rational actors, yes.

7 Q. Okay. We'll get into that philosophy
8 later.

9 Right after that paragraph we just talked
10 about, it says, "Meanwhile, prepare for a
11 significant cost if you need a new well pump. It
12 costs about 1,000 to replace and install a pump and
13 related components in a shallow bored well. For a
14 drilled well, the price may approach \$2,000
15 depending on shaft depth and pump horsepower."

16 A. Yes.

17 Q. Did I read that correctly?

18 A. You did.

19 Q. And do you have any reason to disagree
20 with that statement?

21 A. I mean, we saw a variety of costs. The
22 \$2,000 seemed high. But there was a range of
23 costs, depending on market and which equipment you
24 buy. They're also -- wells or well pumps and
25 pressure tanks and other things are getting less

1 expensive. They're producing less expensive
2 versions of them.

3 Q. On what basis did you determine that
4 \$2,000 seemed high?

5 A. Based on the distribution of looking
6 online and the prices people were reporting for
7 them.

8 Q. Are any of those materials cited in your
9 report?

10 A. To the extent I included them, they're
11 included. Otherwise, they're -- no, they're not
12 cited, obviously.

13 Q. And the information that you have about
14 decreasing prices of these tanks going forward, are
15 any of those materials cited in your report?

16 A. No. That's based on my knowledge of --
17 from other cases and engineering cost estimates.

18 Q. And you don't state anything about that in
19 your report, do you?

20 A. I do not. We didn't take that factor into
21 account. In fact, we assumed that costs would
22 increase at 2 percent per year.

23 Q. So based on the articles that we just
24 talked about, would it be appropriate to include an
25 annual charge for well maintenance in your damages

1 analysis?

2 MS. JOSELSON: Object.

3 A. No. I would say no because the cost of
4 doing that is disproportionate to the benefit of
5 it. So it's not something I would expect people to
6 do.

7 Q. So you relied on these articles for some
8 propositions, but you're ignoring them for others.
9 Is that correct?

10 MS. JOSELSON: Object to the form.

11 A. Well, I'm not ignoring them. So if you --
12 if we look at how long well pumps tend to last,
13 that presumably reflects people's average behavior.
14 So some of those people may maintain them and that
15 might benefit them. Other people don't. But you
16 would still expect the average to be correct. So
17 when they report an average time period over which
18 wells last -- well pumps last, that that would be
19 incorporated in that average.

20 Q. So if we have one class member who is --
21 let's call him Mr. Rational Actor, and he does all
22 the recommended maintenance every year that's
23 recommended in these articles, and we have another
24 class member who is not -- who doesn't do that
25 maintenance, those two class -- putative class

1 members will have different damages, won't they?

2 MS. JOSELSON: Object.

3 A. It depends. I think one person is paying
4 for more pumps and the other one is paying for more
5 maintenance. The total cost may wind up being the
6 same.

7 Q. It may, but you don't know without
8 looking, do you?

9 A. I think that I'm comfortable with the
10 average.

11 Q. But if someone provided you with
12 information on the varying different maintenance
13 habits of people in the putative class, that would
14 provide you with a more accurate and more precise
15 measurement of each individual class member's
16 damages, wouldn't it?

17 MS. JOSELSON: Object.

18 A. I don't know. It would -- it may provide
19 a different measure of loss of that individual for
20 the given year you're in. But whether it would
21 reflect their loss and the total cost, I don't
22 know. It would depend on other factors like how
23 much it cost them to -- what benefit they get for
24 maintaining it. Right? So . . .

25 Q. What other factors would it depend on?

1 A. I mean, you would think rationality would
2 tell you that folks would invest in maintenance up
3 to the point where it doesn't pay. And so you
4 either don't maintain and don't pay that cost, or
5 you maintain and get the benefit of it, but you
6 would net out the same.

7 Q. Assuming people are rational actors?

8 A. Assuming people are reasonable, yeah.

9 Q. Yeah.

10 So more information on those factors will
11 provide a more informed, more accurate, more
12 precise determination of damages of putative class
13 members, wouldn't it?

14 MS. JOELSON: Object.

15 A. Again, it may not change my average.

16 Q. It wouldn't change your average, but it
17 would be more accurate and precise?

18 MS. JOELSON: Object.

19 Q. Is that correct?

20 A. I don't know, because a lot of this is
21 forecasting forward. Because that's what we're
22 stuck with, is a problem that goes forward. So it
23 would be a different number. Whether it's more
24 accurate or not, I don't know.

25 Q. Averages are less accurate and precise.

1 Is that correct?

2 MS. JOSELSON: Objection.

3 A. No.

4 Q. Why is it not correct?

5 A. An average is an average. That's all it
6 is. It's measured with -- it's measured with some
7 precision, but it's -- an average itself isn't less
8 accurate.

9 MR. WILSON: Let's go ahead and break for
10 lunch.

11 MR. WOLFF: No, no. A quick break.

12 MR. WILSON: Never mind?

13 THE WITNESS: You just took lunch away
14 from me. That's --

15 THE VIDEOGRAPHER: Off the record?

16 MR. WILSON: Yeah.

17 THE VIDEOGRAPHER: The time is
18 approximately 12:08 and we are off the record.

19 (Recess taken from 12:08 to 12:13 p.m.)

20 THE VIDEOGRAPHER: The time is
21 approximately 12:13 and we are back on the
22 record.

23 MR. WILSON: Exhibit 13.

24 (Unsworth Exhibit 13 marked for
25 identification.)

1 BY MR. WILSON:

2 Q. The court reporter is handing you what's
3 been marked for identification as Exhibit 13.

4 Do you recognize this document,
5 Mr. Unsworth?

6 A. It appears to be a PDF. It doesn't look
7 like a website, so it's a little hard for me to
8 recognize it. But, yeah.

9 Q. I'll represent to you that this was
10 another one of the articles that was cited in your
11 damages calculation spreadsheet. At the top it
12 says, "How much does a well pump cost to replace or
13 install?" The national average, it states, is
14 1,531.

15 A. Mm-hmm.

16 Q. The typical range is 847 to 2,241. The
17 low end is \$200 and the high end is \$4,000.

18 Your report used the average value to
19 determine the cost to replace or install a well
20 pump. Is that correct?

21 A. That's correct.

22 Q. But that cost could be as low as \$200 and
23 as high as \$4,000. Isn't that correct?

24 A. I mean, that's what's cited here. I
25 don't -- I find it not credible that it could be as

1 low as 200.

2 Q. But you relied on this document?

3 A. I did, for the average, yeah.

4 Q. For the -- now, if -- does the average
5 incorporate that 200 value?

6 A. That's what somebody reported. So I
7 believe what this data set does is it -- people
8 report values and they average them. So it does --

9 Q. So if the 200 value is not credible, then
10 the average isn't credible, either?

11 MS. JOSELSON: Objection.

12 A. No, that's not true. It depends on how
13 much data there is.

14 Q. But you don't know?

15 A. No. But I wouldn't expect that everyone
16 in Bennington could get their well replaced for
17 \$200.

18 Q. But some may. Is that correct?

19 A. I doubt it. I think the average is a more
20 reasonable estimate.

21 Q. So this is a pretty big range here, isn't
22 it, from \$200 to \$4,000 for the cost to replace a
23 well pump?

24 A. Yeah, but there's also a typical range
25 given that's far smaller.

1 Q. You say it's far smaller, but the
2 difference between \$847 and \$2,241, that's more
3 than \$1,000 of difference. It's more than a
4 50 percent difference, isn't it?

5 A. Well, I said it was quite a bit smaller.
6 It's quite a bit smaller than the other range.

7 Q. Doesn't this illustrate the problem with
8 averages?

9 MS. JOSELSON: Objection.

10 A. No, I don't think it does.

11 Q. Really a wide range of data that you've
12 distilled into a single number here. How is that
13 single number of the average fair to people who are
14 on extremes of the range?

15 MS. JOSELSON: Object.

16 A. Well -- so, again, whether it's fair or
17 not is a different question. Fairness would relate
18 to the total damages and what the case settles for
19 and how the damages are awarded. So fairness is a
20 different issue.

21 Whether you're saying that could an
22 individual experience a cheaper well pump
23 replacement in the future and therefore municipal
24 water actually costs them more, I would say, as
25 I've said before, I think I'm right on average.

1 That's way the calculation is done. So I don't
2 expect that number to be exactly the same, but I do
3 expect it to be right on average.

4 Q. Now, I don't mean to be flippant, but if
5 you have a situation where there's a sharpshooter
6 shooting at someone, and they shoot twice, one time
7 they shoot directly to the left and one time they
8 shoot directly to the right, they miss both times,
9 but on average the guy is dead.

10 MS. JOSELSON: I'm not sure there's a
11 question.

12 A. Yeah. Yeah.

13 Q. Isn't that a situation where averages can
14 really distort reality?

15 MS. JOSELSON: Object to the form.

16 A. Well, it's not normally distributed. So I
17 wouldn't use the average.

18 Q. Is this normally distributed?

19 A. I would guess it is, based on the -- I
20 mean, just understand -- based on the way data
21 typically behave, yes. But you just described a
22 situation in which there were two observations, so
23 I don't know if it's normally distributed.

24 Q. You would guess this is normally
25 distributed?

1 MS. JOSELSON: Object.

2 A. Most data are normally distributed,
3 particularly data like these, yes. I would not
4 expect them to not be normally distributed.

5 Q. With a wide typical range in the middle.
6 Is that correct?

7 A. I don't know how they would define a
8 typical range here. I'm using the average. I
9 don't know if the typical range actually has a
10 statistical meaning or whether it's just typical.

11 Q. Now, based on the articles that we've
12 discussed and that were cited in your damages
13 calculation spreadsheet, you determined that a well
14 pump would need to be replaced every 17 years and
15 an expansion tank would need to be replaced every
16 25 years. Is that correct?

17 A. Yes, that's correct.

18 Q. There's going to be different costs for a
19 shallow well pump versus a deep well pump. Right?

20 A. There could be. There could be.

21 Q. Do you know of any reason why there
22 wouldn't be?

23 A. Yeah. The price you get from the -- from
24 the -- whoever is providing it to you.

25 Q. So there can be a difference in the

1 vendors as well?

2 A. There could be, and there could be a
3 difference in when it fails, what the economy is
4 like, et cetera.

5 Q. There could be a difference in operating
6 costs between shallow well pumps and deep well
7 pumps as well?

8 A. I would expect the electricity to be
9 higher for the deep well pump. You're lifting
10 water more. But on average, I would expect it to
11 be the number I have.

12 Q. And do all well pumps and expansion tanks
13 have the same lifespan?

14 A. I wouldn't -- I would expect there's --
15 no. They don't all last exactly the same number of
16 years. They fail in some random distribution.

17 Q. And as we discussed, their price is
18 variable as well?

19 A. They can be, yes.

20 Q. Significantly variable?

21 MS. JOELSON: Object.

22 A. I don't know if they're significantly
23 variable. Remember, this is a national average, so
24 whether they're significantly variable in
25 Bennington or not, I don't know. I would think

1 that at any given time, there's probably a pretty
2 competitive market for installing them. So I'm not
3 sure how variable they would be to an individual at
4 a given time.

5 Q. But you don't have any data that suggest
6 that they're not?

7 A. No. I just have an expectation that --

8 Q. And the only data that you've cited in
9 your analysis spreadsheet shows that they are
10 highly variable?

11 MS. JOSELSON: Object.

12 A. Again, in a range across a national
13 average, yes.

14 Q. They range from \$200 to \$4,000. Is that
15 correct?

16 A. As self-reported, yes.

17 Q. And the typical range spans more than
18 \$1,200 -- more than \$1,300, in fact?

19 A. That would be the difference between those
20 two numbers, yes.

21 Q. The cost of operating and maintaining
22 these pumps could also depend on household water
23 usage, couldn't it?

24 A. Well, the electricity could vary depending
25 on household water usage. So, yes.

1 Q. Might also vary based on the soil quality.
2 Is that correct?

3 A. I'm not -- I'm not familiar with that
4 factor. I'm not sure what you mean by that.
5 Typically these are drilled into bedrock, so I'm
6 not sure what you mean by "soil quality."

7 Q. Now, it's also possible that different
8 members of the proposed class would be at different
9 stages of the life cycle of their well equipment at
10 the time that they switched to municipal water.
11 Isn't that correct?

12 A. I would expect that, yes.

13 Q. So if one proposed class member was
14 reaching the end of the life cycle of their
15 equipment at the time of the switch to municipal
16 water, their expected expenses going forward would
17 be vastly different than someone who was at the
18 beginning of that lifestyle -- life cycle? Excuse
19 me.

20 MS. JOELSON: Objection.

21 A. I wouldn't say vastly different. The way
22 the calculation does it is I simply calculate an
23 average cost per year. So they would incur that
24 expense at a different time so their financing
25 would vary. But I actually -- over the time

1 periods I'm talking about here, I would not expect
2 it to be vastly different.

3 Q. Now, when you determined the cost of
4 electricity to operate the well, there's nothing
5 cited in your report for the basis of that cost.
6 Can you tell us how you derived that number of \$47
7 annually?

8 A. I think the report does actually state.
9 So it's -- we spent quite a bit of energy on the
10 Lockformer case in calculating the cost of -- or
11 the number of kilowatts required to lift water and
12 what a typical kilowatt would be for lifting water.
13 That hasn't changed. That physical function hasn't
14 changed. That's the amount of energy needed to
15 lift water.

16 What we did do is we adjusted for the fact
17 that Vermont has slightly different electricity
18 prices, so the cost of those kilowatt hours are
19 different. But the physical cost of lifting the
20 water is -- the physical requirement of lifting the
21 water hasn't changed with time.

22 Q. Is this something that's in your damages
23 analysis spreadsheet but not in your report?

24 A. I thought it was in both, actually, but
25 maybe it doesn't say that. If it doesn't say it,

1 that's a -- that was left out. I'd have to go back
2 through it to see whether we failed to cite that.

3 Q. So if we have that equation for
4 determining electrical cost, don't we also need to
5 know the amount of volume of water that's being
6 transmitted?

7 A. So we were looking at -- the household
8 size in the Lockformer case and here are very
9 similar. So I assumed a similar water usage and
10 then you have a certain amount of lift.

11 Q. But average household size is deceptive,
12 isn't it? Because you have -- there's a big
13 difference between someone who is a single-family
14 household, or a single-person household, and a
15 family of seven?

16 A. Again, there's no value judgment on an
17 average. It's not deceptive. It is what is it is.
18 It's the -- we're calculating an average lift.

19 Q. But it's not accurate?

20 MS. JOELSON: Object.

21 A. No, it is the average.

22 Q. It's accurate as the average, but is it
23 accurate with respect to the cost for a family of
24 seven versus the cost for a single individual
25 household?

1 MS. JOSELSON: Object.

2 A. I think individual households we talked
3 earlier could consume different quantities of water
4 depending on their behaviors.

5 Q. And we don't know; we'd have to look at
6 that?

7 A. It's -- it's --

8 MS. JOSELSON: You have to let him finish
9 his answer.

10 A. But I don't think you have to look at it,
11 no. I would disagree with that. I am presenting
12 an average, and I believe it's going to be right on
13 average. So it's going to correctly calculate
14 damages for the class.

15 Q. But for an individual within the class,
16 the putative class, more information about how much
17 water they use would give a more accurate and more
18 precise picture of their damages under your model.
19 Is that correct?

20 MS. JOSELSON: Object.

21 A. Already discussed. It would -- it would
22 give a more accurate quantity of water currently
23 consumed. It would not necessarily be more
24 accurate from the 99-year perspective or the
25 30-year perspective for that household. It would

1 depend.

2 Q. So we would need to know not only their
3 current usage but their projected usage going into
4 the future?

5 A. You would have to live out the next 99
6 years, and you would have to have lived out a world
7 in which there was no PFOA.

8 Q. And accounting for those usage base facts,
9 you're saying it would not be accurate to the
10 extent it predicted future usage, but it would be
11 more accurate than the average.

12 MS. JOSELSON: Objection.

13 Q. Is that correct?

14 A. Not across the class, no. I would think
15 the average would be correct across the class.

16 Q. But for some individuals -- in fact, for
17 every individual -- their actual usage is more
18 accurate than an average. Is that correct?

19 MS. JOSELSON: Object.

20 A. If you're trying to measure what?

21 Q. If you're trying to measure their damages
22 under your model.

23 MS. JOSELSON: Object.

24 A. I am trying to measure damages to the
25 class, and I use averages for various factors to

1 predict the damages for the class. On average, it
2 will be correct.

3 Q. If we were going to look at damages for an
4 individual within the class, the proposed class,
5 and we have your framework of added cost of
6 municipal water versus well water, looking at that
7 individual, is it more accurate to use the average
8 or is it more accurate to use the data with respect
9 to the individual?

10 MS. JOSELSON: Object to the form.

11 A. More accurate from what perspective?

12 Q. The perspective of truth.

13 MS. JOSELSON: Object to the form.

14 A. Well, for truth, what would be more
15 accurate would be measured total damages. We're
16 measuring a portion of truth here. So truth takes
17 you to a totally different answer.

18 Q. Well, if we're talking about the truth as
19 to that individual, is the average more accurate or
20 is the data relating to the individual more
21 accurate?

22 MS. JOSELSON: Object to the form.

23 A. So these are being done at the -- at the
24 class level, and so the average I think is
25 accurate.

1 Q. Well, I'm not asking about the class --

2 A. Is there a distribution in the average?

3 Yes, we've already talked about the various
4 factors. But it is correct to use the average.

5 Q. I'm not asking about the class level. I'm
6 asking if we want to determine the damages of an
7 individual within the class, is it more accurate to
8 use the individual's information or to use the
9 average?

10 MS. JOSELSON: Object to the form.

11 A. Would you have information on the future?

12 Q. Assume information on the future both for
13 the average and for the individual.

14 MS. JOSELSON: Object to the form.

15 A. I'm not sure what you mean, then.

16 Q. Okay. If --

17 A. It would give -- you're -- if you had
18 knowledge of the future, the average would be more
19 accurate, if I knew the future.

20 Q. I'm saying that if we have equal knowledge
21 of the future both for the average and on the
22 individual level, is it -- if we're trying to
23 determine the damages of the individual, is it more
24 accurate to use the information relating to that
25 individual or to use an average?

1 MS. JOSELSON: Objection.

2 A. It would depend. It would depend.

3 Q. Describe to me --

4 A. Because I'm going out for 99 years.

5 So . . .

6 Q. Can you describe to me one situation where
7 if you're determining damages for an individual and
8 you have data for that individual, it's more
9 accurate to use an average than it is to use the
10 data relating to that individual?

11 MS. JOSELSON: Object.

12 A. If that individual's behavior in that
13 given year is on the distribution of the average,
14 and I'm going out 99 years, it may actually be more
15 accurate.

16 Q. If you want to know someone's salary, is
17 it more accurate to look at their W-2 or to look at
18 an online survey of salaries in their state, on
19 average?

20 MS. JOSELSON: Object.

21 A. If I wanted to know the average salary for
22 a person in a household in Bennington for a given
23 household over the next 99 years, I might actually
24 be more accurate with the average.

25 Q. But that's not what I'm asking about. I'm

1 saying if you want to know someone's salary, what
2 they currently make, is it more accurate to look at
3 their W-2 or is it more accurate to look at an
4 average across the state?

5 MS. JOSELSON: Object.

6 A. I think under the hypothetical, if you
7 want to know right now what they're earning, their
8 own salary would be more accurate.

9 Q. So wouldn't it be also be more accurate,
10 if you're trying to determine other facts about
11 that person, to look at data relating to that
12 person rather than data relating to averages?

13 MS. JOSELSON: Objection.

14 A. It depends on what you're trying to
15 measure. So we're not measuring here something
16 that's happening right now that we know with
17 certainty. We're measuring something as best we
18 can over an extended period of time, across a class
19 of individuals.

20 Q. But wouldn't you say that data relating to
21 the individual at present is a more accurate
22 predictor of the individual in the future than
23 average data at the present with regard to the
24 individual in the future?

25 MS. JOSELSON: Object.

1 A. Well, I've already stated that I think
2 that the future cost of the well is going to get
3 capitalized in the home value. So, actually, that
4 individual's behavior wouldn't -- no. The average
5 would actually be more accurate, because the
6 average person is going to come along and buy their
7 home.

8 I'm just -- I'm not -- I've already stated
9 that there is a distribution around these
10 variables. I don't agree that the average is an
11 incorrect measure for loss. And I've also already
12 stated that it depends on what the total damage,
13 ultimately, number is, whether it's fair or not,
14 or, as you say, is the truth. And it also depends
15 how the money is distributed. So it's not -- there
16 isn't one factor here.

17 Q. In formulating your opinion in this case,
18 did you review any of the data from any of the
19 named plaintiffs in this case?

20 A. I don't think we did look at the
21 individuals, no. I've seen data on, like,
22 contaminated concentrations of wells, but not -- I
23 did not look at the individual plaintiff data.

24 Q. If you were trying to determine the
25 damages of, say, Mrs. Crawford, would it be more

1 accurate to look at her well expenses than to look
2 at an average?

3 A. It would be more precise for this year to
4 look at her data. But whether that -- whether her
5 well pump would last as long as I say or whether
6 her electricity costs will stay the same, those
7 things all have to play out over time.

8 Q. And how they play out over time, wouldn't
9 it be better to look at her well pump and her
10 current usage to predict the life of her pump and
11 the extent of her future usage?

12 A. I don't know if it would be better. It
13 remains to be seen.

14 Q. Do you have any reason to think that
15 averages would be better than looking at Mrs.
16 Crawford's information specifically?

17 MS. JOSELSON: Object to the form.

18 A. Yeah, I've already stated why I think the
19 averages might make more sense.

20 Q. Why didn't you look at any of the data for
21 the class members in this case?

22 A. Why didn't we survey the class members?
23 Is that what you're asking?

24 Q. Yeah. Why didn't you look at their data
25 on how they used their wells and what their

1 expenses are?

2 A. Well, first of all, I wouldn't -- if we
3 were to look at how individuals use their wells
4 currently, that wouldn't be a terribly sound
5 measure because the situation already exists.

6 We also -- frankly, from an economic
7 perspective, interviewing class members about those
8 factors, I don't know whether that information is
9 reliable, given that they're members of the class.

10 Q. So you're telling me that if we have a
11 family of seven with large water consumption in
12 Bennington, that it's more accurate to predict
13 their future water usage based on an average than
14 to look at the fact that they're a family of seven?

15 A. I didn't say that actually. What I said
16 was --

17 Q. You told me --

18 A. What I said was my average is going to be
19 correct.

20 Q. But you told me that an average is a
21 better predictor of future behavior than individual
22 data. Didn't you tell me that?

23 A. Well, because that family is not going to
24 remain a family of seven in the household. They're
25 going to change with time. So . . .

1 Q. And still, you think that an average --
2 that an average is a better predictor of that?

3 A. I think average is perfectly reasonable
4 for those time periods, yes.

5 Q. Is it more precise? Without regard to
6 whether it's reasonable, is it more precise and is
7 it more accurate than the individual data?

8 MS. JOSELSON: Object.

9 A. Since I can't measure the future, having
10 lots of detail about today would not significantly
11 increase my confidence.

12 Q. So you're saying an average based on data
13 from today is a better prediction than actual data
14 based on the situation today?

15 MS. JOSELSON: Object.

16 A. Well, I don't have actual data. I don't
17 know when the pumps will fail. I don't know how
18 much electricity will cost in the future. I don't
19 know whether an individual's water softening costs
20 could change in the future. So what I have an
21 average cost today that I'm using to forecast these
22 costs.

23 Q. And you don't have actual data because you
24 didn't ask for it?

25 A. No, because I can't see the future.

1 Q. No. We're talking about actual data for
2 the present.

3 A. I did not ask for actual data from
4 these -- from these class members currently.

5 Q. So your average is predicting out into the
6 future 99 years. Is that correct?

7 A. At a 2 percent increase, yes.

8 Q. How many people stay in the same house for
9 99 years?

10 A. Probably almost no one.

11 Q. Okay. And you're telling me that your
12 average is a good way of predicting what's going to
13 happen in the future?

14 MS. JOSELSON: Object to the form.

15 A. I think we already went over this earlier.
16 It's my belief that costs of owning a home are
17 capitalized in their value, and so that's why I
18 believe that's correct. We already covered that.

19 MR. WILSON: Okay. We can break for
20 lunch.

21 THE VIDEOGRAPHER: The time is
22 approximately 12:37 and this is the end of Media
23 No. 3.

24 (Lunch recess taken from 12:37 to 1:35
25 p.m.)

1 A F T E R N O O N S E S S I O N

2 (Unsworth Exhibit 14 marked for
3 identification.)

4 THE VIDEOGRAPHER: The time is
5 approximately 1:37. We are back on the record.
6 This is the beginning of Media No. 4.

7 Counsel, you may proceed.

8 BY MR. WILSON:

9 Q. Good afternoon, Mr. Unsworth. I'd like to
10 talk now about your discounting for present value
11 in your report.

12 You discounted the estimated costs of
13 water usage for the putative class members
14 according to the 30-year mortgage rate issued by
15 the Bank of Bennington. Is that correct?

16 A. Yes. I'm trying to -- so, within
17 economics, we believe people have a time value for
18 money. And so I'm trying to come up with what I
19 think is the nominal discount rate, since I'm --
20 since I'm forecasting costs into the future. And
21 to do that, I made the assumption that -- standard
22 assumption -- that when people capitalize costs
23 into their homeownership that it would get
24 capitalized at the after-tax mortgage interest
25 rate, since it's a sort of a standard.

1 Q. And that's based your assumption that
2 mortgage financing would be available to homeowners
3 in this community. Is that correct?

4 MS. JOSELSON: Object to the form.

5 A. It doesn't have to assume that. It's
6 actually not an unreasonable estimate of the
7 nominal rate. But over time, I would -- you know,
8 I would think that's a reasonable estimate.

9 The other alternative would be to go with,
10 you know, some conventional estimates of what the
11 real rate of discount is, and those could yield
12 slightly different numbers. But I think this one
13 is the best for this particular situation.

14 Q. And the reason you used the rate given by
15 the Bank of Bennington was because you wanted to
16 pick the rate that was available at the time of
17 your report to the local class members. Is that
18 correct?

19 MS. JOSELSON: Object.

20 A. Within -- sorry.

21 Within the local community, yeah. There
22 is some regional variation in mortgage rates,
23 so . . .

24 Q. Yeah.

25 So I'm going to hand you what's been

1 marked for identification as Exhibit 14, I believe.

2 MR. WILSON: Emily, here's your copy.

3 Q. If you turn to page 6-1. So it's the
4 first page in section 6.

5 You got right to it, didn't you.

6 So this chapter is entitled "Discounting
7 Future Benefits and Costs," and in the second
8 paragraph there -- I'm sorry. Let me take a step
9 back.

10 Can you tell me what this document is?

11 A. It seems to be the most recent version, I
12 believe, of EPA's guidance document for preparing
13 economic analysis under federal regulations. So
14 under various federal rules and presidential
15 orders, the federal government is supposed to
16 provide an economic analysis of new rules, and this
17 is a guidance document that was developed in part
18 for that purpose.

19 The -- I don't think this one says it, but
20 a previous version of this actually listed me as
21 one of the authors. So . . .

22 Q. And so you cited this document in your
23 report as material you relied upon in connection
24 with preparing your report. Is that correct?

25 A. I believe that's true. Let me look.

1 Yeah, I don't think I cited it for the
2 purposes of discounting, but I -- yeah. I cited it
3 for section 7314.

4 Q. And you are a former coauthor of this
5 volume?

6 A. Well, EPA issued contracts to a bunch of
7 folks to help author different sections of the
8 analysis, and I was one of the folks who wrote some
9 sections of it. But there were quite a few other
10 people who contributed as well.

11 Q. So in this section 6 on discounting future
12 benefits and costs, the first sentence of the
13 second paragraph says --

14 MS. JOSELSON: I'm sorry. I apologize.
15 What --

16 THE WITNESS: 6-1.

17 MS. JOSELSON: 6.1?

18 MR. WILSON: 6-1. If you look at the
19 bottom, there's pages.

20 Let me know when you're there.

21 MS. JOSELSON: Yes.

22 BY MR. WILSON:

23 Q. So that first sentence of the second
24 paragraph says, "Social discounting, the type of
25 discounting discussed in this chapter, is

1 discounting from the broad society as a whole point
2 of view that is embodied in benefit cost analysis
3 (BCA). Private discounting, on the other hand, is
4 discounting from the specific limited perspective
5 of private individuals or firms."

6 Did I read that correctly?

7 A. Yes.

8 Q. Would you agree that the type of
9 discounting that you did based on the mortgage rate
10 and the Bank of Bennington is an example of private
11 discounting as opposed to social discounting?

12 A. Yes.

13 Q. Now, you applied a discount rate to the
14 cost of municipal water, but you did not apply a
15 discount rate to any of the capital costs of
16 maintaining a well, did you?

17 A. No. What I did was I calculated the
18 difference and assumed that those -- if you wanted
19 to capitalize the difference over time, you would
20 discount the difference. So I did discount the
21 capital costs.

22 Q. I'm sorry. I understood that your opinion
23 discounted the water usage costs themselves. Is
24 that not correct?

25 A. So what my analysis does is it takes

1 the -- it calculates a difference in a given year
2 for the costs between owning a well versus having
3 municipal water, which vary depending on which
4 group you're in. And then it assumes that some
5 components of that cost increase over time, and
6 then it discounts that difference. So it does --
7 there is some discounting going on of the capital
8 cost.

9 Now, what I did for the replacement is I
10 used a simple straight line replacement. I assumed
11 that if it was a thousand-dollar expense over 20
12 years, there would be -- there would be \$50 of
13 expense that would have to be put aside each year,
14 an average of \$50.

15 Q. Okay. I think I understand your method
16 and that's helpful. Thank you for clarifying.

17 So, just for example, suppose you had a --
18 in year 15, you had an estimated water charge in
19 year 15 for municipal water; and then you also had
20 a potential, say, tank replacement in year 15, just
21 by way of example, and the other associated
22 expenses with maintaining the well.

23 You then calculated the difference between
24 the water usage charge and the well operation and
25 maintenance costs, and then that difference, along

1 with all the other differences in all the other
2 years, was capitalized over time. Is that correct?

3 A. Was -- was -- I calculated a present
4 value.

5 Q. I'm sorry.

6 A. I didn't capitalize it.

7 But, effectively, I'm assuming that the
8 increased cost to the individual is the same every
9 single year except that it goes up by a small
10 amount. But it's discounted back, that amount.
11 That same amount is discounted back every year.

12 So it's the same number every year. It
13 just is -- gets larger in the future -- the
14 difference gets larger in the future because I am
15 inflating some costs, but it's being discounted at
16 a higher rate, so the number actually gets smaller.

17 Q. Would it be more accurate to separately
18 discount these expenses based on the nature of the
19 expense, for instance, to discount the cost of
20 replacing a tank based on the capital cost to the
21 individual in the year that it's expected to occur?

22 MS. JOSELSON: Object to the form.

23 A. So as we talked about this morning, I'm
24 assuming on average, so I use more of an accounting
25 principle for the capital cost. And, again, if

1 it's a thousand-dollar expense every 20 years, I'm
2 assuming on average it will be a \$50 expense for
3 the individual.

4 That is, for the individual who is -- if
5 you actually compensate them with the dollar amount
6 today, it would on average be enough that they'd be
7 able to pay those costs into the future.

8 Q. But would it be more accurate to determine
9 the year in which those expenses were expected to
10 occur and then discount those costs to present
11 value based on the financing that would be
12 associated with them?

13 MS. JOSELSON: Object.

14 A. As we talked about this morning, I
15 don't -- I don't know exactly when each of these
16 components will fail and need to be replaced. So I
17 think it's reasonable over these time periods to
18 use the -- to use the simple average cost of it per
19 year.

20 Q. Because it will -- it will vary putative
21 class member to putative class member when those
22 components will fail. Is that correct?

23 MS. JOSELSON: Object.

24 A. It could. But, again, as we talked about
25 this morning, on average it's going to be right.

1 There's presumably a difference of ages of pumps
2 and tanks and things like that. So . . .

3 From a discounting perspective, that
4 wouldn't make any difference because I'd be
5 assuming a certain percentage of items would fail
6 in any given year, and it would have the same
7 effect in the math.

8 Q. I'd like you to take a look at page 6-7 of
9 the EPA manual. And on that page, if you take a
10 look at section 6.2.2.1 -- I'm sorry. 6.2.2. So
11 right above 6.2.2.1.

12 If you look at the beginning of that
13 paragraph, it starts, "Generally a distinction is
14 made between individual rates of time preference
15 and that of society as a whole, which should inform
16 public policy decisions. The individual rate of
17 time preference includes factors such as the
18 probability of death, where society can be presumed
19 to have a longer planning horizon. Additionally,
20 individuals routinely are observed to have several
21 different types of savings, each possibly yielding
22 different returns while simultaneously borrowing at
23 different rates of interest."

24 Do you agree with that statement?

25 A. I agree with it, but the -- in the context

1 of what we're doing here, where I'm calculating a
2 damage which I believe will be paid at a given time
3 certain and then that capital will be used to pay
4 costs in the future, the individual preferences
5 aren't relevant. Because I'm not calculating a
6 loss in -- I'm not calculating the individual's
7 belief in their own loss or their sense of loss in
8 a given year. I'm capitalizing a series of future
9 expenses.

10 Q. Well, you also see the sentence that says,
11 "Individuals routinely are observed to have several
12 different types of savings, each possibly yielding
13 different returns while simultaneously borrowing at
14 different rates of interest."

15 A. Right.

16 Q. Wouldn't that suggest that individuals
17 each have different discount rates for present
18 value based on their capital cost for incurring a
19 given expense?

20 MS. JOELSON: Object.

21 A. So the cost to the individual does not
22 represent their own time preference. So I'm not
23 trying to get an individual time preference here,
24 so I'm not asking the question how does an
25 individual in Bennington feel about a dollar today

1 versus a dollar tomorrow. I'm calculating a dollar
2 amount which, if given to the individual, would
3 provide a stream of payments for 99 years that
4 would let them cover these costs. So it's a
5 different -- it's a different calculation.

6 Q. But --

7 A. It's not a -- it's not a time preference
8 for money. It's literally how much money do I have
9 to have today to make these individuals whole.

10 Q. Whether that money works to allow those
11 individuals to cover their future expenses, though,
12 depends in part on the availability of financing to
13 those individuals and the capital costs that they
14 would incur if they are going to take on those
15 expenses. Isn't that correct?

16 MS. JOELSON: Object.

17 A. It would -- it would better relate to
18 their -- to their ability to get a return in an
19 individual cost of capital. So . . .

20 Q. Because individual homeowners might
21 finance their costs in a variety of different ways.
22 Isn't that correct?

23 A. Well, if -- I'm not sure I follow that.
24 Financing the costs in what regard? Given a
25 settlement or given an award or not?

1 Q. Well, suppose the individual had to incur
2 the expense of replacing a pump or tank that's in
3 the thousands of dollars and they don't have
4 thousands of dollars of cash on hand. They might
5 use a home equity line of credit, for instance.

6 A. That would be one option.

7 Q. They might take out a personal loan. Is
8 that correct?

9 A. That's correct.

10 Q. That home equity line of credit could be a
11 fixed-rate product or it could be a variable-rate
12 product. Right?

13 A. That's right.

14 Q. They might use a credit card?

15 A. They might. It would be an expensive way
16 to finance it, but yes.

17 Q. They might choose to pay cash. Is that
18 correct?

19 A. That's correct. Yes. Sorry.

20 Q. And each of those different means of
21 financing carries a different interest rate and
22 different financing charges. Isn't that correct?

23 A. Right. So in those cases, the cost of the
24 capital might be more expensive to those
25 individuals if they did not have access to, say, an

1 inexpensive home equity line.

2 Q. So to accurately determine the total cost
3 of those future expenses, we would need to know the
4 methods of financing that are available to the
5 individual putative class members. Isn't that
6 correct?

7 MS. JOSELSON: Object.

8 A. Well, I don't think you can know that,
9 because, again, you're dealing with a 99-year or a
10 30-year time period. So we don't actually know
11 what the cost would be.

12 To get an accurate -- what we're trying to
13 do is come up with a correct measure and a reliable
14 measure of the effective return they're going get
15 on their money to pay these expenses. And given
16 that we're only going over that time period, I
17 would expect that effectively the ownership of that
18 well that isn't there anymore would change. And so
19 it would get capitalized in the home value.

20 Q. You said, "I don't think we can know
21 that."

22 Couldn't we find out what methods of
23 financing are available to these class members by
24 asking them?

25 MS. JOSELSON: Object.

1 A. You could find out what it is right now,
2 given their personal situation and markets right
3 now. But had we done this analysis in 1980, we
4 would have gotten the answer completely wrong,
5 because the cost of capital has changed so
6 dramatically.

7 Q. But by at least addressing the variety of
8 different methods of financing that are available
9 to those class members now, wouldn't we get a more
10 accurate picture for each of them than we would by
11 just using one one-size-fits-all rate?

12 MS. JOSELSON: Object.

13 A. It would -- you'd have to present it to
14 me. Then I'd have to look at it and see whether I
15 thought it was a better measure of the -- of the
16 capitalization rate.

17 Q. But are you suggesting the possibility of
18 future events, given that in 1980 we couldn't
19 predict the current financial conditions -- doesn't
20 that mean that we need to consider more data, not
21 less?

22 MS. JOSELSON: Object.

23 A. Well, again, what we're trying to get at
24 here is to assure there's enough cash there, and we
25 need to do it at a risk-free -- towards a risk-free

1 rate. Not a social discount rate, but towards a
2 risk-free rate. Because we don't want -- I mean,
3 folks can obviously invest the money in the stock
4 market and they might lose it all.

5 But what we're trying to do here is give a
6 sound measure of how you could -- how you could
7 take these expenses. If an individual had to incur
8 these expenses and they weren't paid for them, how
9 they could capitalize it in their mortgage, for
10 example, which would be a pretty predictable,
11 inexpensive form of capital.

12 Q. Can you tell me what the estimated
13 lifespan is of a groundwater well?

14 A. The components or the well itself?

15 Q. The well itself.

16 A. I've heard that -- you know, 50 years plus
17 if it's constructed correctly.

18 Q. Do they all have the same lifespan?

19 A. I wouldn't expect they would, no.

20 Q. Would it vary from household to household?

21 MS. JOSELSON: Object to the form.

22 A. I think by definition if they're not all
23 the same, it's varying across households. So . . .

24 Q. Can you tell me anything about the costs
25 to an individual homeowner if a well decreases its

1 output to less than is required by the particular
2 household?

3 A. I'm not sure what you mean by that.

4 Q. If a well stops producing the water that's
5 necessary for a household, can you tell me what
6 costs the house -- the homeowner will incur to
7 bring it up to full production?

8 MS. JOSELSON: Object to the form.

9 A. So what -- I guess what would cause it to
10 fail in terms of production?

11 Q. I guess that was part of the -- would be
12 part of your answer.

13 What are the potential things that would
14 cause the well to fail, and how would they be
15 remedied?

16 MS. JOSELSON: Object.

17 A. I mean, typically, it's the pump that
18 goes, not the well itself. Typically the screening
19 wouldn't go.

20 So it would have to mean that either --
21 well, the most common reason why a well fails is
22 the water table drops below the well. That's the
23 most common reason. That doesn't happen in the
24 Bennington area. It's a pretty wet area. Other
25 parts of the country, that's not unusual at all.

1 All of a sudden you don't have any water.

2 Q. You cited material from Skilling & Sons in
3 your damage analysis spreadsheet, didn't you?

4 A. Looks like I did. I'd have to look at the
5 actual document. Looks like we used it for well
6 pump replacement.

7 Q. And can you tell me what you described
8 Skilling & Sons as in your damages spreadsheet?

9 I think it's there.

10 A. Well, if I'm reading this correctly --
11 again, it's hard to read in this format -- but it
12 looks like the number that was associated with it
13 is a 20-year period for well pump replacement. It
14 looks like I actually used 17 in the actual
15 calculation.

16 MR. WILSON: Can we mark another exhibit
17 here. What are we up to now?

18 THE REPORTER: 15.

19 (Unsworth Exhibit 15 marked for
20 identification.)

21 BY MR. WILSON:

22 Q. So this is -- can you tell me what this
23 is, Mr. Unsworth, Exhibit 15?

24 A. Looks like it's a printout from the
25 website of the organization we were just talking

1 about.

2 Q. Now, if you turn to the second page of
3 that document, the first -- the second full
4 paragraph says that "Another problem can be well
5 age. A well's lifespan is considered to be roughly
6 20 to 30 years."

7 Do you agree with that statement?

8 A. No, not based on the information we saw.
9 The well itself -- I'm not sure when they're saying
10 the well here whether they're referring to the
11 whole contraption.

12 That's a technical term.

13 Q. And this article is entitled "What to Do
14 If a Well" -- "If a Water Well Runs Dry"?

15 A. Yes. That's the situation I was just
16 describing.

17 Q. And did you consider that possibility in
18 your analysis?

19 A. Well, what we did is we talked with folks
20 out there about -- there's a paragraph in the
21 report that says we talked to folks out there about
22 whether Bennington has had a problem with -- with
23 the aquifer being drawn down. Again, not an
24 uncommon problem in the rest of the country. Not a
25 terribly common problem in this part of the world.

1 Q. When you say "terribly common," do you
2 know what the incidence is?

3 A. I think it's not heard of is what we were
4 told. The water quality is pretty good and it's
5 pretty high yield.

6 Q. Do you have any data to support that?

7 A. I just have the conversations that I did.
8 So . . .

9 Q. So your merits report states that the
10 recovery for any putative class member on municipal
11 water needs to be offset against the potential
12 savings on --

13 A. Can you tell me where you're reading?

14 Q. Yeah. This is a general description at
15 this point, but it's page 12 of your report.

16 It states that the recovery for any
17 putative class member on municipal water --

18 A. Which report are you looking at?

19 Q. Merits report at page 12.

20 MS. JOSELSON: Exhibit 3. Is that right?

21 MR. WILSON: I think that's right, yeah.

22 Exhibit 3.

23 A. And you're reading from where?

24 Q. I'm sorry. I'm paraphrasing at this
25 point. I'm paraphrasing your methodology and you

1 can tell me if it's correct or not.

2 A. Okay.

3 Q. Your report states that the recovery for
4 any putative class member on municipal water would
5 need to be offset against the potential savings
6 that they would have on home insurance.

7 A. That's correct.

8 Q. And you also state in your report at Note
9 17 that whether a particular putative class member
10 experiences this savings "depends on the protection
11 class they are assigned to (that is, some residents
12 may already have this discount if, for example,
13 they are near a hydrant) and other factors
14 associated with their insurance policy and
15 provider."

16 Did I read that correctly?

17 A. You did.

18 Q. So based on what you've stated in your
19 report, it would be fair to say that to accurately
20 determine damages for a putative class member on
21 municipal water, we would need to know their
22 insurance policy information, their provider, their
23 protection class, and their rating. Is that
24 correct?

25 MS. JOSELSON: Object.

1 A. Or you could do what I did, which is
2 assume that people improve their class. So they
3 move to a better insurance class.

4 Q. So this is strange to me because it's a
5 situation where your report acknowledges a
6 particularized individual issue that affects
7 different class members differently based on a
8 variety of different factors and then ignores it
9 and assumes a uniform value.

10 Why did you do that?

11 MS. JOSELSON: Object.

12 A. Well, I think you're mischaracterizing the
13 question I was answering and the methodology.

14 As I understand it, the factors that
15 determine damages need to be the same across class
16 members, and these factors are true for all class
17 members. Whether they're class members or not,
18 it's true for everybody in Bennington. So --

19 Q. Is that --

20 MS. JOSELSON: Wait.

21 Q. Pardon me. I'm sorry. I thought he was
22 done.

23 A. So the question is whether I can use the
24 same method and consider the same factors for class
25 members, and that's what I'm doing. In this case,

1 I'm picking a number that I believe is likely to be
2 high for some members but is a typical discount you
3 get when your insurance class changes.

4 So why would that happen? You'd be close
5 enough to a hydrant in order to be able to tell
6 your insurer, "I want a discount because I'm near a
7 hydrant now."

8 Q. I'd like -- I want to drill in on
9 something you said early on in that response. You
10 said, as I understand it, the factors that
11 determine damages need to be the same across class
12 members, and these factors are true for all class
13 members.

14 Can you tell me what you mean by that?

15 A. Well, it means that the -- effectively,
16 for an economist, it means you could have a formula
17 to estimate losses and that formula would have the
18 same variables for everyone in the group. And you
19 would recover damages and then you could award
20 damages to the members of that group based on
21 reversing that formula.

22 Q. And that formula gets more complex as
23 there are more variables. Is that correct?

24 MS. JOSELSON: Object.

25 A. I don't know -- I don't know if it's

1 complex or not. It has more variables if there's
2 more variables. I don't know whether it's complex
3 or not.

4 Q. And -- well, more variables is more
5 complex. Wouldn't you agree?

6 A. I'm a math guy, so I'm not sure. So, more
7 fun, but I'm not sure it's more complex.

8 Q. Do you have any data to support your
9 assumption that the factors apply to any or all of
10 the named plaintiffs?

11 MS. JOSELSON: Object to the form.

12 A. I did not -- what I'm estimating this for
13 are these are factors that allow me to understand
14 how the cost of water would increase when you move
15 from wells to municipal water in these two
16 communities. I did not test those against factors
17 for the named plaintiffs. But they -- to the
18 extent that they have a well -- and I understand
19 some of the named plaintiffs may not have a well --
20 and to the extent that they live in one of these
21 two towns and to the extent that they have this
22 offer or not, it would apply to them.

23 Q. So it seems to me to be a pattern
24 throughout your report that you identify a factor
25 that would affect your analysis. You state that

1 it's individualized and then you input it as a
2 constant into your analysis, like the insurance
3 cost.

4 Am I wrong about that?

5 MS. JOSELSON: Objection.

6 A. Well, you started out by saying "it would
7 seem to me," so I don't know what it seems to you,
8 first of all.

9 But my analysis says here are the things
10 that will determine the increase in cost, if any,
11 to these -- to individuals in these communities.
12 And I estimate each of those as best I can based on
13 the information that's available, and that
14 calculates an increase in cost per year for each
15 well.

16 Q. But we've discussed a variety of ways
17 where you could make your estimates more accurate
18 and more precise by evaluating more data with
19 respect to individual class members.

20 A. We --

21 MS. JOSELSON: I didn't think you were
22 done. But when you are --

23 MR. WILSON: Okay.

24 MS. JOSELSON: Are you done?

25 MR. WILSON: There's no question yet.

1 MS. JOSELSON: Exactly. That's what I was
2 going to say.

3 Q. So we've discussed a variety of ways in
4 which -- now I lost it. Okay.

5 We've discussed a variety of ways where
6 you could make your estimates more accurate and
7 more precise by evaluating more data with respect
8 to individual class members, and yet in each of
9 those cases, even where you've acknowledged that
10 the data is individualized and the data is
11 available, you've decided to use an average.

12 Why is that?

13 MS. JOSELSON: Object to the form.

14 A. So I disagree with the first part of that
15 statement. We've talked about areas where you
16 believe that more information on the individual
17 level for this whole group of homeowners would make
18 what you believe to be a more accurate and precise
19 estimate.

20 What I've said is I believe the average is
21 reasonable to get a total damage estimate across
22 the whole class.

23 Q. Well, it seems like to be apples and
24 oranges there, because you said -- I believe it's
25 more accurate and precise, and you said you believe

1 it's more reasonable. That's not the same thing.

2 I don't think you've ever disagreed with
3 me that individual data is both more accurate and
4 more precise with respect to individual class
5 members. Is that correct?

6 MS. JOSELSON: Object.

7 A. Well, I think I did. I think what I said
8 was, for the individual class members, having more
9 information about what's happening right now and
10 using that information may not be the best estimate
11 of the long-term difference, which is what I said.

12 Q. You said --

13 A. And I also said that I felt that the
14 estimates were reliable to calculate an average
15 loss.

16 Q. Now, I think you suggested that for the
17 long term. But at least for year one, would you
18 concede that individual data is more reliable than
19 long-term averages?

20 MS. JOSELSON: Object to the form.

21 A. I don't -- I don't know. You could get
22 the exact same answer if you had a whole ton of
23 individual data. So whether it's more reliable or
24 not, I don't know.

25 Q. So you're telling me that if I have

1 information that Mrs. Crawford paid \$1,200 in 2017
2 to replace a well pump -- let's say she paid 2,000
3 instead.

4 If I have that information, you're telling
5 me that it's actually more accurate to use an
6 average than to look at the amount that she paid;
7 that if I have a receipt that shows this is the
8 amount she paid for her well tank, you're telling
9 me it's better to look at your average for that
10 year?

11 MS. JOSELSON: Objection.

12 Q. Is that correct?

13 A. Which -- what individuals paid for past
14 investments isn't in my model. Those are sunk
15 costs.

16 Q. Now, I take it that if Mrs. Crawford paid
17 \$1,200 to replace a tank in 2017 and therefore
18 would not need to replace her tank again for
19 another 10 or 20 years, looking at that information
20 is less accurate than making your generalized
21 predictions about how frequently she needs to
22 replace her tank?

23 MS. JOSELSON: Object.

24 A. I might -- by knowing when a person
25 replaced a piece of equipment, I might have more

1 information about when it would fail. But the way
2 my calculations go is I'm assigning -- I'm taking
3 the cost of replacement and spreading it over the
4 average years. And so someone who recently
5 replaced the tank would accumulate those -- those
6 monies to replace it again. Someone who needs to
7 replace it more -- sooner would also get that
8 stream of payments.

9 So it's aiming not at the individual
10 failure time, which I don't know, but it's aiming
11 at the average cost.

12 Q. I guess I can see why that's easier, but I
13 don't see why it's more accurate or more precise.

14 Can you tell me, is there any way in which
15 that's more accurate -- an average is more accurate
16 than individualized data?

17 MS. JOSELSON: Asked and answered many,
18 many times. But I'll object to the form.

19 A. Yeah, I think I've already stated why. I
20 think you're trying to forecast a number of
21 variables here, and knowing what's happening right
22 now -- I mean, unless you told me that nobody's
23 using water softener, for example, then that would
24 change my numbers. But the particulars of an
25 individual is not necessary for the compensation

1 formula.

2 Q. So your report here states, "Whether or
3 not a particular residence will experience this
4 savings depends on," and then you list a number of
5 factors.

6 A. Where are you looking?

7 Q. Page 12, Note 17.

8 You're stating in your report that whether
9 this savings happens depends on a number of
10 factors, but it seems like you're testifying now
11 that whether or not the particular residents will
12 experience the savings actually just depends on the
13 average of those costs and those factors?

14 MS. JOSELSON: Objection.

15 A. So what -- I do state here that that --
16 whether the particular residents would experience
17 that savings. I then assume they do. And so my
18 damage estimate, if I had more information, it
19 would actually make the damages larger.

20 Q. Your report also states at Note 20 on the
21 same page that it is possible that some residents
22 will experience increased lead levels in tap water
23 as a result of the switching of source water from
24 well water to municipal water.

25 Did I read that correctly?

1 A. That's correct.

2 Q. So to determine the total damages for an
3 individual member of the putative class, we would
4 also need to know whether the switch to municipal
5 water would cause an increase in lead, wouldn't we?

6 MS. JOSELSON: Objection.

7 A. If we were calculating -- well, so whether
8 or not someone is going to see an increase in lead
9 levels really will depend upon the chemistry of the
10 water, which includes where it is in the system,
11 which time period, all of those things. But it
12 also depends on their own fixtures.

13 I don't actually calculate a damage for
14 replacing fixtures, so it's not in my model. It's
15 just noted here that the state has said there may
16 be an increase in lead.

17 I will say that both utilities have
18 indicated to me that they are quite cognizant of
19 this, that they're going to test, that they're
20 going to act quickly to resolve this problem if it
21 occurs, and so that's why I didn't include it in
22 the damage model.

23 Q. Now, in science, when a scientist
24 recognizes in a particular study that there may be
25 an individual factor or variable that could affect

1 the analysis, it's appropriate for them to then
2 attempt to control for that variable in their
3 analysis. Is that correct?

4 MS. JOSELSON: Object to form.

5 A. If they can, if that's what they're trying
6 to measure.

7 In this case, I'm not trying to measure an
8 increase in -- I'm not trying to measure the cost
9 of replacing fixtures.

10 Q. Now, if that variable has been identified,
11 good science dictates that you either attempt to
12 control for it or you acknowledge the imprecision
13 of your results and potential inaccuracy of your
14 results because you can't control for it. Is that
15 correct?

16 MS. JOSELSON: Object.

17 A. I think that's what Footnote 20 is doing.
18 It's saying that I am aware that there could be
19 costs to these individuals that are not
20 incorporated in my report, but I'm also aware that
21 the municipality following good practice is going
22 to try to avoid it.

23 Q. And if we got that information, then we
24 could refine on and improve your damages model?

25 A. You could add to it.

1 Q. Yes. Add to it in a way that would be
2 more correct and more accurate. Is that correct?

3 MS. JOSELSON: Objection.

4 A. It would be only more accurate in that it
5 would be more inclusive of possible -- all of the
6 possible damages.

7 Q. I'd like to turn back to your definition
8 about the class definition. As we talked about,
9 the class definition is limited to natural persons
10 within the area who have interest in real property.

11 Does your analysis assume an ownership
12 interest?

13 MS. JOSELSON: Objection.

14 A. So the -- my analysis, I would assume --
15 well, I'm certain there's no properties there which
16 aren't owned by someone, and if that person lives
17 in the home, they're bearing the costs. If they're
18 renting the home, the renter is now bearing the
19 costs, and that would affect the rental value they
20 could get.

21 So I'm assuming that -- economic -- again,
22 as we talked about this morning, economic theory
23 would say that the cost of this rolls to the land
24 owner.

25 Q. Do all renters bear water costs?

1 A. No idea. Doesn't matter to me.

2 Q. But if we are determining how to
3 distribute the funds that you've opined are due to
4 the class, wouldn't we need to know who bears what
5 expense?

6 MS. JOSELSON: Object.

7 A. I think I just answered that. I said that
8 I -- economic theory says that the cost increase
9 associated with this will roll to the land owner.
10 So I would compensate the land owner for this
11 particular cost component.

12 Q. Even if the land owners's lease with the
13 tenant says that the tenant is responsible for
14 water charges but not responsible for the well
15 maintenance?

16 A. I'm not sure why a lease would say that,
17 because it would imply there's -- both conditions
18 exist in the same home. I can't imagine why that
19 situation would exist.

20 Q. Well, let's -- perhaps not a good
21 hypothetical. Let me -- if the -- if the default
22 were that the landlord was responsible for well
23 maintenance but that the tenant would be
24 responsible for the water charges based on usage.

25 Now, I know that in an individual home,

1 that would not be the case because you wouldn't
2 have -- you wouldn't have both. But if that's the
3 default arrangement, doesn't that affect how you
4 calculate damages for people in the area who are
5 renters and not owners?

6 MS. JOSELSON: Object.

7 A. I mean, how you would go about paying
8 people out in the class, I haven't been -- I mean,
9 I've thought about that, but I haven't been asked
10 to calculate that.

11 I would -- from an economic perspective, I
12 would pay the land owner, and the land owner is --
13 has an arm's-length transaction with the renter, so
14 I would assume some sort of transaction would take
15 place there. Or the land owner would, you know, be
16 able to be more competitive in the rental market or
17 something like that. So --

18 Q. Even though that land owner wouldn't have
19 any added costs because they wouldn't be paying for
20 the municipal water charges by being hooked up?

21 MS. JOSELSON: Objection.

22 Q. You would still compensate them as if they
23 did have those costs?

24 MS. JOSELSON: Objection.

25 A. Yeah, because I would assume there's an

1 efficient market for rental and that the renter is
2 going to ask to have it discounted, that the rent
3 is effectively now more expensive and so they'll
4 want some sort of difference. Particularly true
5 for the renter who wasn't paying -- in your
6 scenario, wasn't paying the well cost previously.
7 They're now seeing a substantial increase in costs.

8 Q. Is it possible that the switch of homes
9 from private wells to municipal water has affected
10 the value of the real property?

11 MS. JOSELSON: Objection.

12 A. We talked about that a little bit this
13 morning and your assertion that people might value
14 a home that's on municipal water differently than
15 they value a home on a well.

16 In this particular case, the but-for
17 condition is would homes that previously were on
18 wells, did they experience a decrement in property
19 value associated with now being unable to use water
20 because it's contaminated and having to switch to
21 municipal water.

22 So the but-for isn't the simple model you
23 describe. So . . .

24 Q. But is it possible that as a result of the
25 but-for model that you've opined on in your report,

1 that there's also been a change in real property
2 value?

3 MS. JOSELSON: Object.

4 A. So no one's actually gone to municipal
5 water yet, from what I understand. I think there
6 were a couple of folks that were hooked up because
7 they happened to be near mains.

8 My model assumes that the capitalized cost
9 of being on municipal water will be capitalized in
10 the home values, the only thing that's changing.
11 And so I would expect that that will show up, all
12 else equal, in the home value. Whether you could
13 measure it or not statistically, I don't know.
14 There's a lot of variables that affect home value.

15 Q. If you could measure it statistically,
16 could you measure it on a case-by-case basis
17 through appraisal?

18 A. No.

19 Q. Why not?

20 A. I don't think appraisers could pick up
21 anything like that.

22 Q. That the amenity or disamenity of a
23 connection to municipal water is just not a
24 relevant factor for an appraiser?

25 MS. JOSELSON: Object.

1 A. Oh, it may be. I just find appraisers'
2 judgments to be too subjective.

3 Q. Aren't appraiser judgments, though, based
4 on review of comparable sales in the area and the
5 all the data relevant to a property?

6 MS. JOSELSON: Object.

7 A. Not -- not from my review of what
8 appraisers do. They -- and I don't mean to put
9 down appraisers everywhere. But appraisers look
10 at -- at several comparable sales which they select
11 based on professional experience, and they don't --
12 they don't use large data to determine factors.
13 The fact that appraisers have a hard time knowing
14 the true value of real estate I think was pretty
15 well demonstrated during the economic collapse when
16 appraisers kept assuming that home values were
17 going up continuously and would continue to go up
18 continuously.

19 So it's a different technique. It's used
20 for -- appraisers are useful for things like banks
21 not overinvesting in homes, but even in that case,
22 they failed during the Depression.

23 Q. When parties negotiate the sale or
24 purchase of a home, do they consult economists who
25 provide them with a comprehensive analysis of the

1 effect that various environmental conditions have
2 on being capitalized into the value of their home,
3 increasing it or decreasing it?

4 MS. JOSELSON: Objection.

5 A. Unfortunately not.

6 Q. In fact, they'll have more of a discussion
7 informally based on the condition of the home.
8 Isn't that right?

9 MS. JOSELSON: Objection.

10 A. I think it would be -- I mean,
11 individuals -- I mean, just from my observation, I
12 haven't built any models in decision making by home
13 buyers, but they look at the market. They talk to
14 a Realtor and they are selecting homes looking for
15 the attributes that most closely match what they're
16 looking for.

17 Q. And one thing you might see in a property
18 listing would be whether the property has a well or
19 whether it is on municipal water or how recently
20 various well maintenance was performed. Is that
21 correct?

22 A. I would think so, yes.

23 Q. So that would be a factor that a potential
24 buyer will consider in deciding how much to pay for
25 a given property.

1 MS. JOSELSON: Object.

2 Q. Is that correct?

3 A. They could be factors that would determine
4 that. It will influence it.

5 As I also stated this morning, I think
6 some people may view the presence of a well as a --
7 as an amenity, that they prefer homes with wells.
8 And, in fact, you would -- intuition would tell you
9 that people who have bought homes with wells prefer
10 homes with wells.

11 Q. That's certainly possible.

12 And so wouldn't -- isn't the gold
13 standard --

14 A. I should say we're getting beyond
15 economics here, because now we're talking about
16 people's preferences for real estate, which is --

17 Q. But isn't the gold standard of economics
18 ultimately what a willing buyer and a willing
19 seller agree is the price of an asset?

20 MS. JOSELSON: Objection.

21 A. As we talked about this morning, that's
22 using revealed preferences through market
23 transactions. And so if you can -- if you have a
24 market that's rich enough in terms of transactions
25 and you have homes that are homogeneous enough,

1 properties that are similar enough, you may be able
2 to control for all the variables and detect all of
3 those things that we just discussed. So . . .

4 Q. And so if there is any change in the value
5 of a home due to the connection to municipal water,
6 is that something that would need to be offset or
7 added to your damages calculation in this case?

8 MS. JOSELSON: Objection.

9 A. So if you could show that homes that have
10 municipal water, that have all the same attributes,
11 trade higher than homes on wells that have all of
12 the exact same attributes, then that would indicate
13 the market value of the home changes. It may not
14 change the preferences for the individual in the
15 home, because the individual in the home purchased
16 it for their own reasons.

17 Q. I'd like to turn now to your replacement
18 cost opinion.

19 A. Are we done with this?

20 Q. I think so.

21 You told me earlier, I believe this is
22 fair to say, that an economic analysis of
23 environmental damages must relate to the person
24 whose loss you're evaluating and not to the losses
25 of another person. Is that correct?

1 MS. JOSELSON: Objection.

2 Q. Withdraw the question.

3 MR. WILSON: We'd like to take a break.

4 THE VIDEOGRAPHER: Okay. The time is
5 approximately 2:26 and we are off the record.

6 (Recess taken from 2:25 to 2:32 p.m.)

7 THE VIDEOGRAPHER: The time is
8 approximately 2:32. We are back on the record.

9 Counsel, you may proceed.

10 BY MR. WILSON:

11 Q. Mr. Unsworth, would you agree that an
12 economic analysis of environmental damages must
13 relate to the person whose loss you are evaluating
14 and does not quantify the losses of another person?

15 MS. JOSELSON: Objection.

16 A. You'd have to -- that's too philosophical.
17 You'd have to tell me more.

18 Q. We had a hypothetical earlier, I think,
19 about Andy and Barry. And if you've been retained
20 to evaluate Andy's damages, you don't look at
21 Barry's damages and say those are Andy's damages,
22 unless you have some basis to believe that Barry's
23 damages are representative of Andy's. Is that
24 correct?

25 MS. JOSELSON: -- objection.

1 A. Assuming they're representative, I'd be
2 comfortable doing that, and if -- yeah, I would
3 agree they should be representative.

4 I didn't understand whether you were
5 asking whether I could use information from one
6 individual to infer damages to another, which I do
7 all the time in economics, or whether you're giving
8 the damages to the wrong person. So . . .

9 Q. So you agree it's wrong to give the
10 damages to the wrong person?

11 MS. JOSELSON: Objection.

12 A. It wouldn't make the party who was harmed
13 whole.

14 Q. Now, here, the proposed class consists of
15 natural persons with interest in real property
16 whose ground water has elevated PFOA. Is that
17 correct?

18 MS. JOSELSON: Objection.

19 A. I think you read the class definition
20 correctly, yes.

21 Q. And your replacement cost opinion involves
22 various improvements to the water infrastructure to
23 the town of Bennington. Is that right?

24 A. Well, the water infrastructure is managed
25 by the town of Bennington for the betterment of all

1 of its residents. And so the improvements would
2 have to be managed by the town of Bennington but
3 the benefits would accrue to the community, just
4 like -- you're probably aware these -- the two
5 water systems in Bennington and North Bennington
6 were donated to the community. So it went to the
7 betterment of everyone in the community.

8 Q. But the infrastructure is owned by the
9 town of Bennington. Is that correct?

10 A. For the -- for the use of the residents of
11 the town who have access to water.

12 Q. The town of Bennington is not a plaintiff
13 in this action, is it?

14 A. I don't know whether they are or not.

15 Q. You're not aware that it is, are you?

16 A. I'm not aware that they are, no. And I'm
17 also not assuming that the town of Bennington would
18 be made better off by the projects I've suggested.
19 They would be given funding, they would accomplish
20 those projects at that funding cost, and that would
21 be to the betterment of the citizens of Bennington.

22 Q. And the town of Bennington is not a
23 natural person, is it?

24 A. That's a legal determination. I don't
25 know the answer to that.

1 Q. Is the town of Bennington a human being?

2 A. I don't know if that's defined within the
3 law or not. So -- as far as I know, the town of
4 Bennington is not, in a -- in a -- sort of a normal
5 language, nonlegal sense a human being, no.

6 Q. And it's not a member of the putative
7 class, is it?

8 A. I think we just answered that I don't -- I
9 don't know if that's true or not, but I'll accept
10 that they're not if you say that.

11 Q. Do you know whether the natural persons
12 who do own property in the class area and have
13 elevated PFOA, whether they have a legal interest
14 in the water infrastructure of the town of
15 Bennington?

16 MS. JOELSON: Objection.

17 A. I don't. That's a good question, though,
18 because of the unusual way in which the town of
19 Bennington and the village of Bennington got their
20 water systems. I don't know if those agreements
21 implied some legal rights to the residents. I
22 don't know.

23 Q. So if you took the total damages that you
24 estimated here and divided it among the members of
25 the putative class, would those putative class

1 members have the ability to undertake the
2 infrastructure property -- projects that you
3 recommended in your opinion?

4 MS. JOSELSON: Objection.

5 A. I'm not making that assumption. I'm
6 making the assumption that the -- that the town of
7 Bennington would need to undertake those projects
8 to benefit the community.

9 Q. So those projects don't really represent
10 damages of the class members at all, do they?

11 MS. JOSELSON: Objection.

12 A. They represent the cost of a remedy to the
13 class members. The damages, I would expect, would
14 be significantly higher. But the -- it's a remedy
15 to help -- to help alleviate the harm.

16 Q. How do these water infrastructure projects
17 relate to the presence of PFOA in the water?

18 A. So there's -- what we did in working with
19 the town and the village water folks who understand
20 their systems is we asked the question are there
21 improvements that would assure the quality of water
22 now that there's additional people who have been
23 added to the system, as well as the fact that the
24 community is now wholly dependent on the water
25 system, not on the groundwater underneath the

1 homes; whether there's ways in which capacity could
2 be enhanced or -- if needed. If there's no need
3 for that, then that wouldn't be on the list -- and
4 whether or not there's a way to protect the quality
5 of the source water.

6 Q. We'll talk about that a bit.

7 (Unsworth Exhibit 16 marked for
8 identification.)

9 BY MR. WILSON:

10 Q. The court reporter is handing you what's
11 been marked for identification as Exhibit 16 to
12 your deposition.

13 Can you tell me what this is?

14 A. This is -- looks like the town's outside
15 engineer, Mark -- I'm going to forget his last
16 name. It's his report on how they would go about
17 providing the additional properties that were being
18 added to the water system with water and what the
19 cost of that would be.

20 Q. And for which system?

21 A. For the North Bennington system.

22 Q. And if you take a look at page 6 under
23 section 4.3, at the end of that first paragraph
24 under 4.3, it says that "Using a per property water
25 demand of 121 gallons per day, the total water

1 additional consumption is estimated to be 6,500
2 gallons per day for the proposed system expansion.
3 The village has this reserve capacity available to
4 serve this expanded area."

5 Did I read that correctly?

6 A. You did.

7 Q. And you noted in your report on this basis
8 that representatives of the village of North
9 Bennington have expressed the opinion that there's
10 no need for expansion or changes to their system to
11 meet the expected future demands imposed by
12 additional users. Is that correct?

13 A. That is their -- that's their statements,
14 yes.

15 Q. And for that reason, you didn't attempt to
16 calculate damages for North Bennington because you
17 believed that their statements that their systems
18 were adequate to meet the additional demand meant
19 that there were no damages. Is that correct?

20 MS. JOELSON: Objection.

21 A. It's Mark Youngston, by the way.
22 Y-o-u-n-g-s-t-o-n.

23 What I would say is that the -- so what
24 I'm calculating here is the cost of a remedy that
25 would harden, in effect, the water systems, given

1 that the towns are now dependent on the municipal
2 systems more so than before.

3 And in the case of North Bennington, their
4 opinions are that there are no available options or
5 reasonable actions that are either required or
6 necessary to, again, guarantee quality, guarantee
7 capacity, or -- or protect or enhance the source
8 waters.

9 I think that there is -- I'm a little bit
10 confused by that, given the data that North
11 Bennington has provided to the state regarding
12 where they are relative to their capacity
13 constraint. But that's their opinion and so I'm
14 living with the opinion.

15 Q. Okay. And just to be clear, they
16 stated -- in your report, you state,
17 "Representatives of the village of North
18 Bennington, however, have expressed the opinion
19 that there is no need for expansion or changes to
20 their system to meet the expected future demands
21 imposed by additional users."

22 When you stated that, were you referring
23 to this conclusion of the Otter Creek report?

24 A. That, and conversations with Mark and the
25 representative from the water utility.

1 Again, it's not that there aren't any
2 damages. It's that there's no available actions
3 here that would -- that would help to remedy that
4 situation. There's -- the system simply doesn't
5 have any alternatives available to make things
6 better.

7 Q. Where does it state in that report or in
8 anything in your report that there are no
9 alternatives and that's the reason that you're
10 finding no damages?

11 MS. JOSELSON: Object to the form.

12 A. So as I describe in my report and as is
13 contained in some of the reference materials we
14 provided, we worked through a series of questions
15 with the two town -- the town and the village, as
16 to whether there were actions that would -- that
17 would be available.

18 So a typical action, for example, would be
19 to protect the watershed that the water comes from.
20 Another typical action would be to improve
21 redundancy, since people who are now dependent on
22 the system would be better off with a redundant
23 system.

24 You know, in the case of the village, the
25 village is confident that their system is good as

1 it can be, and so there's no way they can improve
2 it and so there's no way to compensate for
3 improvements. And so that's what we're saying
4 here.

5 I actually -- you know, just based on
6 simple calculations, I believe they actually may
7 run into a capacity problem in the future, but
8 they're not -- they're not worried about that right
9 now.

10 Q. And so you're accepting their stated
11 preference that they don't need any additional --

12 A. I'm -- I'm accepting their judgment that
13 there's no project that makes sense to them --

14 MR. WILSON: Okay. Can you mark this.

15 A. -- that meet my criteria for proximity to
16 the damages and to remedying the situation.

17 (Unsworth Exhibit 17 marked for
18 identification.)

19 BY MR. WILSON:

20 Q. I'm handing you now what's been marked as
21 Exhibit 17 to your deposition.

22 Can you tell me what this is?

23 A. So this is the equivalent report by Jason
24 Dolmetsch asking the question -- answering the
25 question how is the town of Bennington going to

1 serve these new neighborhoods, so to speak, and
2 what the cost of that would be.

3 Q. So, to be clear, this is an equivalent
4 report to the Otter Creek report that we just
5 discussed that said there was no additional need
6 for additional capacity based on new service in
7 North Bennington. Is that correct?

8 MS. JOSELSON: Objection.

9 A. That's a different question. This is an
10 equivalent report. The purpose of this report is
11 to estimate the cost of providing water, and they
12 did not include in this any capacity increases.
13 But that's not what this report -- that wasn't the
14 question they were answering.

15 Q. Look at page 11 of this report.
16 Underneath the chart there, the second sentence
17 says, "This total daily demand would equally
18 approximately 74 percent of existing total source
19 capacity and thus would not create a need for
20 additional source capacity."

21 Did I read that correctly?

22 A. You did. And that's based on the Vermont
23 statute -- I don't know if it's a statute or it's a
24 regulation, but it says that the towns have to hit
25 90 percent of their capacity before they need to

1 plan for additional capacity. And so he's not near
2 the 90 percent.

3 Q. So why -- why do you treat these two
4 similar statements in these two reports
5 differently?

6 MS. JOELSON: Objection.

7 Q. Do you still --

8 MS. JOELSON: I'm sorry.

9 A. I don't.

10 MS. JOELSON: Wait a minute. Did you
11 finish?

12 Q. I'll just try -- I'll start over again.
13 Why do you treat these two similar
14 statements in these two reports differently?

15 MS. JOELSON: Objection.

16 A. I don't. I did ask these utilities
17 whether -- I treat them the same, actually. I did
18 ask these utilities whether they felt that the
19 change was going to increase the need for source
20 water capacity. Neither community felt that was
21 true. As I said, in the case of North Bennington,
22 I'm skeptical, but that's their judgment that
23 they're not interested in it.

24 What I did ask them is are there ways in
25 which the systems could be hardened, which this --

1 what this document is answering -- asking the
2 question, "Okay. We're not going to be providing
3 additional water to people. Do we have enough
4 water to give to people?" Both communities do. I
5 don't think it will be a problem in either
6 community.

7 But the projects I'm proposing are not
8 increasing capacity. They're increasing -- they're
9 hardening other attributes of the system.

10 Q. What methodology did you use to determine
11 which projects were necessary to harden those
12 attributes of the system?

13 A. So what we did is we had a series of
14 conversations with both communities where we talked
15 through the typical things one does to harden a
16 water system. So typical things are to protect the
17 source water, to make sure that you have sufficient
18 and balanced storage, that you have redundancy in
19 your systems, and that you can withstand unusual
20 events that affect the quality or the availability
21 of water.

22 So the idea here is to go beyond simply
23 providing water to individuals, which is being
24 addressed through the stuff we talked about
25 already, and instead to answer the question how can

1 we make these communities better off, to offset the
2 fact that now their groundwater is contaminated and
3 people can't use it.

4 Q. Is that the duty of the tort law for a
5 defendant to make the plaintiff better off?

6 A. No. To make them whole.

7 MS. JOSELSON: Objection.

8 A. We're making them whole. We're not making
9 them better off.

10 Q. So the hardening of the attributes of the
11 system that you referred to, that will benefit
12 everyone who is on the municipal water system. Is
13 that correct?

14 A. Now and in the future, yes.

15 Q. And many of those people, because they
16 were already on the municipal system, they never
17 had contaminated water to begin with. Is that
18 correct?

19 MS. JOSELSON: Objection.

20 A. Presumably not. And once the new folks
21 are added to the system, they won't have
22 contaminated water, either. So they'll be in the
23 same position.

24 Q. And so because they never had water with
25 PFOA in it, they were never class members. Is that

1 correct?

2 MS. JOSELSON: Objection.

3 A. I don't know. I thought the definition of
4 the class was whether you were over the
5 concentrations. You're inside the box, in other
6 words, the area of concern.

7 Q. And the municipal water supply has not had
8 any PFOA in it. Is that correct?

9 A. Not that I'm aware of.

10 Q. So if these people had municipal water to
11 begin with, then they never had water with PFOA in
12 it?

13 A. No, but they did have homes that were
14 located above PFOA. They lived in a community with
15 a groundwater contamination problem.

16 Q. How is -- the municipal water system
17 serves homes that are outside of that box, doesn't
18 it?

19 A. There are -- it's a good question in
20 Bennington whether there are homes. There may be
21 homes that are outside the box, yes.

22 Q. If you take a look at the class definition
23 again -- I don't recall which exhibit number it
24 was -- it states that the class includes those
25 persons whose private water supply wells have been

1 found to be contaminated with PFOA above 20 parts
2 per trillion.

3 MS. JOSELSON: I think I'm going to
4 object. You're referring to an email the date
5 after which the complaint was amended.

6 If you want to ask him about the current
7 class the way it's defined in the complaint,
8 that would be one thing. I frankly don't know
9 if there's a change between them. But using an
10 email as the basis for asking him questions
11 about who is in the class and who isn't is not
12 fair and not accurate.

13 MR. WILSON: I believe they are the same
14 definitions. And your objection is taken. But
15 I simply used this email because this is what he
16 produced in his reliance materials to show what
17 he relied on. But I believe they are the same.

18 MS. JOSELSON: I think he earlier
19 testified he didn't rely on that class
20 definition. But you have to read the whole
21 definition in order to be accurately questioning
22 him.

23 BY MR. WILSON:

24 Q. So if there are people within the -- who
25 are on the municipal water system to begin with and

1 never had PFOA in their water, these infrastructure
2 projects that you're proposing would inure to their
3 benefit as well?

4 A. As we already discussed, I have no reason
5 to believe that there was PFOA in the municipal
6 system at measurable concentrations. So those
7 individuals definitely -- the individuals who were
8 on the municipal system did not have PFOA. That
9 was not their problem. And they don't have any
10 added costs or anything. Their life as far as
11 their costs go along the same. They do live in a
12 community and they do live -- that has a
13 groundwater contamination problem now, and they do
14 live in a community that is now dependent upon that
15 municipal system solely for their water supply.

16 And they -- if they're within the box that
17 has been defined by the state of Vermont, they will
18 not be able to develop a well even if they wanted
19 to. So they are -- they are affected.

20 Q. But it's possible that there are members,
21 people who are on the municipal water supply, who,
22 because they're outside of the box and never had
23 PFOA in their water, are not class members. Is
24 that correct?

25 MS. JOSELSON: Objection.

1 A. I'd have to look at a map of the municipal
2 system, and I'm trying to remember if there's
3 anybody who is not inside the box who is on the
4 municipal water system. I don't know that sitting
5 here.

6 Q. And just to be clear, when we say that
7 these infrastructure projects would inure to their
8 benefit, it's not a direct benefit, is it?

9 MS. JOSELSON: Objection.

10 A. Well, it would -- it's direct in that it
11 improves the reliability and the soundness of the
12 system and the quality of the water. And it -- and
13 it would provide a sound substitute, in my mind,
14 for -- a sound and reasonable substitute for the
15 loss of the groundwater.

16 Q. And the degree to which any of the
17 individual class members would actually experience
18 any harm related to these infrastructure projects
19 would only be if those projects were not undertaken
20 by this action and that they had to be undertaken
21 by the town and they had to be financed publicly,
22 and then water rates had to be increased or a bond
23 had to be issued, and only then would these class
24 members experience any cost related to these
25 infrastructure projects. Is that correct?

1 MS. JOSELSON: Objection.

2 A. I didn't follow any of that.

3 Q. Okay. Probably my fault.

4 So regardless of whether these
5 infrastructure projects are undertaken or not, the
6 people in the class who are on municipal water are
7 going to be receiving water with no PFOA in all the
8 capacity that's necessary to their homes. Is that
9 correct?

10 MS. JOSELSON: Objection.

11 A. As far as I know, there's not a PFOA
12 problem, and there's -- there appears to be a
13 sufficient quantity that folks would receive the
14 water. There are issues associated with
15 reliability. I mean, there are system improvements
16 that provide reliability.

17 The analogy here would be here would be
18 the case we did the Virgin Islands where -- in
19 which a portion of the St. Thomas water supply was
20 provided by groundwater. When that was lost, there
21 were added costs, just like there were here,
22 calculated differently because it's a different
23 situation; and then there was a part of the demand
24 was to enhance the desal facility, because now at
25 that point we no longer have groundwater, so we've

1 lost one resource, and we want to harden the other
2 resource.

3 So that's exactly what we're doing here.
4 It's the same thing.

5 Q. And who was the plaintiff in that St.
6 Thomas case?

7 A. The plaintiff there was the Virgin Islands
8 government, acting for the citizens of the Virgin
9 Islands.

10 Q. And here, the government is not a
11 plaintiff, is it?

12 A. Not that I'm aware of.

13 Q. And it's private citizens acting directly
14 based on their own right side. Is that correct?

15 A. I would assume so, yes.

16 Q. Now, would the benefits from the
17 infrastructure projects that you propose inure to
18 the benefit of homeowners within the zone of
19 contamination who were already connected to the
20 municipal water supply?

21 A. Yes, it would.

22 Q. Would that benefit be a windfall to them
23 if they're not class members?

24 MS. JOSELSON: Objection.

25 A. Because they decided not to join the class

1 or because they weren't in the definition of the
2 class or --

3 Q. Because they're not in the definition of
4 the class.

5 MS. JOSELSON: Objection. States facts
6 not in evidence.

7 A. I would argue no in that the groundwater
8 in the Bennington area provided a service to the
9 public, whether or not people were using it,
10 whether or not they were individual owners of
11 wells. And so I don't think they would have a
12 windfall in that they also are worse off.

13 Q. But those people are not putative class
14 members. So --

15 MS. JOSELSON: Same ob -- I'm sorry.

16 Q. Why is it proper to evaluate making them
17 whole?

18 MS. JOSELSON: I think that's a -- I'm
19 going to object that you're misstating the
20 definition of the class and misrepresenting the
21 facts to the witness in your question.

22 Q. Assuming that these individuals are not in
23 the putative class but are on municipal water and
24 have been on municipal water, is it proper for your
25 damages opinion to provide relief that inures to

1 their benefit?

2 MS. JOSELSON: Objection.

3 A. So these are the individuals whom are --
4 receive town of Bennington water but are not above
5 the PFOA plume at all is what you're arguing, would
6 they receive a benefit from this.

7 *Q. I'm asking not whether they would receive
8 a benefit, which I think you've already said they
9 would, but whether it's proper for your opinion to
10 provide those people with a benefit when they are
11 not members of the class.

12 MS. JOSELSON: Same objection, for all the
13 same reasons.

14 A. I don't know legally whether it's proper.
15 I don't have any way to provide a benefit to the
16 class members through a replacement that might not,
17 I suppose, spill over to somebody else's benefit.
18 So . . .

19 *Q. Isn't this the Andy and Barry problem,
20 though, that you've been retained to evaluate
21 damages to the putative class, but you're providing
22 damages to some other third person?

23 Is that correct?

24 MS. JOSELSON: Absolutely misstates the
25 evidence. You do it over and over. It's

1 totally improper.

2 MR. WILSON: Emily, "object to the form"
3 will be sufficient.

4 MS. JOSELSON: No. You cannot ask him
5 questions that misstate what the complaint says
6 and ask him if that's appropriate.

7 MR. WILSON: I'm not asking any question
8 that misstates the complaint. I've asked him to
9 assume about the class definition, assume that
10 that's true. Because I don't think you can say
11 that it's absolutely certain that every single
12 person on the municipal water supply is a class
13 member.

14 And in any event, we're not going to get
15 into that here. If you have any further
16 objections, objection to the form is what's
17 permitted by the rules. So let's leave it at
18 that.

19 Would the court reporter please reread the
20 question.

21 *(Question read back by the reporter.)

22 MS. JOSELSON: Same objection.

23 A. So I don't -- I don't know if there's
24 anybody in that situation. I'd have to look at the
25 maps to see where the municipal system is and

1 whether it's fully within the area of concern. So,
2 first of all, I'll caveat by saying that.

3 Secondly, I would say that we're providing
4 improvements to the system here. To the extent
5 that the benefits of that spills over, it's still
6 necessary to compensate the class members. I don't
7 have any other alternatives that I can go directly
8 to those class members, unless we go to some sort
9 of model that models their willingness to accept
10 payment, which I would expect would be
11 significantly higher.

12 Q. Have you attempted to allocate those costs
13 only to the people who are class members, not to
14 those who are not?

15 MS. JOSELSON: Objection.

16 A. So by "allocate," you mean calculate a
17 dollar amount per -- per individual?

18 Q. That would be one example.

19 A. So within the report, I calculate the
20 implied cost of the project per year, I believe for
21 residences -- I'd have to look at it -- that fall
22 within the contaminant plume areas.

23 Q. I think that, in trying to unpack this, I
24 think the problem is a little bit deeper and a
25 little bit different. Because supposing your

1 opinion is correct and supposing it's ultimately
2 accepted by the court and the amount of damages
3 that you've estimated is paid to the members of the
4 putative class in shares, and those damages
5 represent the cost that's necessary to undertake
6 these infrastructure improvements, those would be
7 costs that would be necessary for those
8 infrastructure improvements that would benefit
9 other persons who were outside of the class, but
10 those projects might never actually be undertaken
11 because the money is being paid to individual class
12 members and not to the town of Bennington. Is that
13 correct?

14 MS. JOSELSON: Objection.

15 A. No. That's wrong in a bunch of ways. I
16 mean, first off, if the monies were allocated out
17 to the individual class members, the projects
18 wouldn't take place. And so there would be no
19 benefit to anyone who's in the community but not a
20 member of the class. So that wouldn't be true in
21 itself. But the presumption here is that you could
22 use the municipal system as the mechanism to make
23 people whole by providing them an equivalent
24 replacement.

25 Q. Have you ever undertaken any analysis to

1 allocate those costs pro rata between class members
2 and nonclass members who live within the class
3 area?

4 MS. JOSELSON: Objection.

5 A. I've already said I don't know if those
6 people exist. And, no, I haven't.

7 Q. So you proposed in your merits report at
8 page 16 to -- that Saint-Gobain should purchase
9 properties around the Balles Brook intake through
10 arm's-length transactions with willing sellers, to
11 allow for control of land uses on these properties
12 that could impact the town's water source.

13 A. It's "Bolles Brook."

14 Q. Bolles Brook. Thank you.

15 A. That is one of the projects I looked at.

16 Q. What are those potential impacts?

17 A. It's described in a separate town document
18 that talks about the fact that without control of
19 the land use by having private ownership of the
20 land, the intake water could be affected by poorer
21 waste management --

22 Q. What's --

23 A. -- by those land owners.

24 Q. Apologies.

25 What is that separate town document?

1 A. I'd have to go through -- yeah, I'm not
2 sure which one it is. But the town described
3 actions they're trying to take, so they are -- this
4 has already been raised as an issue that Vermont
5 prefers towns to have control over their
6 watersheds. Which the town -- because the majority
7 of the watershed here is the national forest, is
8 not a huge problem. There are some privately held
9 properties there.

10 Q. If we end up discussing that document, if
11 it's something I end up showing to you later on in
12 the deposition, would you please let me know so I
13 know that's what you're talking about?

14 A. Sure. Yeah.

15 Q. None of those potential impacts concern
16 PFOA, though, do they?

17 MS. JOSELSON: Objection.

18 A. No. As I say in the report, the only
19 thing you could do for PFOA at this point is a
20 fantastically expensive remedy. So there's --
21 we're trying to offset the effects of the PFOA with
22 actions we can do.

23 Q. So they wouldn't be part of the but-for
24 world that's attributable to PFOA, because the
25 potential harms would have existed without it. Is

1 that correct?

2 MS. JOSELSON: Objection.

3 A. Right. And, in fact, that's part of my
4 goal here. I'm looking for things that could be
5 due -- that could be done to improve and harden the
6 system, to offset the fact that the PFOA is there.
7 So I need -- I need those things to exist in order
8 to calculate a cost of a remedy for the harm here.

9 Q. And the problems with the Bolles Brook
10 intake were a regular problem well before there was
11 any issue with PFOA. Is that correct?

12 MS. JOSELSON: Objection.

13 A. The challenges associated with that source
14 as it relates to sediment load has been an ongoing
15 problem.

16 Q. And you state in your report that Jason
17 Dolmetsch of MSK Engineering estimated those
18 improvements to cost \$6 million. Is that correct?

19 A. That's correct.

20 Q. Do you know the basis for that figure?

21 A. He said he did a basic cost estimate.
22 It's not a -- it's not a buildout cost estimate.
23 That would be significantly more. But he's
24 considered systems like this and he has a sense of
25 what these things cost. It's a storage tank. It's

1 not a terribly complex system. It's a storage
2 tank. It's an electronic system to cut off the
3 water when it's heavy in sediment load and it's a
4 filtering system.

5 Q. Did you ask for any substantiation for his
6 opinion in that regard?

7 A. No. I asked him for the cost of it, what
8 he felt the cost would be.

9 Q. Is that something you typically do, just
10 ask someone what something costs to determine a
11 value?

12 A. It's -- I mean, it's typical in our
13 business that we would ask an engineer who is
14 familiar with the system, who is qualified to make
15 cost estimates, what the cost might be. And he
16 came back with that cost estimate.

17 Q. And he didn't provide you with any
18 itemization, did he?

19 A. He did not.

20 Q. No breakdown or analysis?

21 A. He did not.

22 MS. JOSELSON: Objection.

23 Q. You also propose that the Chapel Road
24 storage tank should be replaced to improve overall
25 system and liability at an estimated cost of

1 \$5 million. Is that correct?

2 A. Right. And they were also -- he felt that
3 that tank is at risk due to its age and he also
4 wanted -- felt that a redundant line to the tank
5 would help with balancing the system and provide a
6 source of water for, you know, like another
7 Hurricane Irene or something.

8 Q. And so when you say "due to its age," this
9 means that that tank was already at the end of its
10 useful life before there was any issue with PFOA.
11 Is that correct?

12 MS. JOSELSON: Objection.

13 A. That's correct. Again, we're looking for
14 things we could do to harden the system to offset
15 the PFOA. We've done as much as we can do with the
16 PFOA.

17 (Unsworth Exhibit 18 marked for
18 identification.)

19 BY MR. WILSON:

20 Q. The court reporter is handing you what's
21 been marked for identification as Exhibit 18.

22 Do you recognize this document?

23 A. I do.

24 Q. Can you tell me what it is?

25 A. It looks like Jason was providing

1 Patrick -- who is one of the attorneys in the case,
2 I believe -- and Terry Morse with cost estimates
3 for projects. This was early on and when we were
4 asking questions about what projects might be
5 relevant.

6 Q. And if you look at the original email in
7 this chain on page 3, it says, "Hi, Jason. I am at
8 Bennington town offices meeting with Terry Morse.
9 Terry is hoping you could give me a copy of the
10 town's water plans for 5, 10, and 20 years."

11 Did I read that correctly?

12 A. That's right.

13 Q. And then in the final email in the chain,
14 when a list is ultimately provided, Jason Dolmetsch
15 says, "Hi, Patrick. Here is the list of
16 infrastructure projects that we have identified,
17 the following water improvement projects for the
18 system. Please note that this list is an internal
19 wish/planning list that we use for future planning
20 and budgeting and not an officially duly adopted
21 capital plan."

22 Did I read that correctly?

23 A. You did.

24 Q. So this wish list and planning list
25 predates any issue with PFOA. Is that correct?

1 A. That's a good question. I don't know when
2 these things came onto the list. I'm not aware if
3 any of these items had -- were necessitated by the
4 PFOA.

5 Q. And the Chapel Road tank replacement is
6 listed as one of the items on that list. Is that
7 correct?

8 A. Right, as one item. As I understand it --
9 I mean, the town of Bennington's water system is
10 pretty small and their budget's pretty modest, but
11 they do ask their engineer on a regular basis
12 whether there are things he would do to improve the
13 system and upgrade the system, and this was -- that
14 was the list at that time.

15 Q. What is the economic methodology that
16 would require the defendant in this case to pay for
17 the wish list of the town utility?

18 A. I don't think we're making that assertion.

19 Q. You are asking that an item on this wish
20 list to be paid for by Saint-Gobain. Is that
21 correct?

22 MS. JOSELSON: Objection.

23 A. One of the -- a part of one of the items
24 on this list, this is the tank replacement. As I
25 understand it, that did not include the redundant

1 line to the tank. One of those items we determined
2 would satisfy the criteria of making the system
3 more reliable, better capacity, maintain quality,
4 or replace the services of groundwater.

5 So we -- based on conversations with them,
6 we selected one item from this list that we felt
7 had -- would provide that offsetting benefit.
8 There aren't a lot of alternatives at this point in
9 Bennington to offset the damage caused to
10 groundwater, short of an incredibly expensive
11 remedy. So what we're trying to do is make the
12 community members as well off by making their
13 remaining water supply reliable.

14 Can we go off the record for a second?

15 Q. What's that?

16 A. Can we go off the record?

17 Q. Sure.

18 A. I just want to grab some water.

19 THE VIDEOGRAPHER: The time is
20 approximately 3:13 and we are off the record.

21 (Recess taken from 3:13 to 3:19 p.m.)

22 (Unsworth Exhibit 19 marked for
23 identification.)

24 THE VIDEOGRAPHER: The time is
25 approximately 3:19 and we are back on the

1 record.

2 BY MR. WILSON:

3 Q. Mr. Unsworth, thank you for your time
4 today. I think I have just one more question for
5 you, and this is really just a housekeeping
6 question to help us understand things.

7 If you'll take a look at what's been
8 marked as Exhibit 19 in front of you. I'm going to
9 represent to you that this was material that we
10 received produced to us as part of your reliance
11 materials in this matter, and we frankly have no
12 idea what it is. And so if you could tell us what
13 it is, it would be appreciated.

14 A. It's a really good economic graph because
15 it doesn't label either of the axes, so it
16 satisfies the behavior of economists.

17 I believe what this is -- and I could
18 confirm it -- but I believe what it is is these are
19 water production numbers for North Bennington over
20 a certain time period. And I -- that's what this
21 is. So I think what you're seeing there is a
22 little seasonality, but I'm not positive.

23 Q. So do you have any idea what the units are
24 on the axes?

25 A. I believe those are in gallons, and

1 there's -- yeah.

2 Q. On --

3 A. I'd have to go back to look at it. But
4 that's a general sense of what these numbers are.

5 Q. So the Y axis would be gallons and the X
6 axis would be --

7 A. Rows of observations on given days.
8 Whether they're all specifically days or not, I
9 don't remember, because they don't actually -- it's
10 such a small system, they don't actually have
11 anybody at the plant on some days. So they might
12 be, like, long weekends and things.

13 Q. And would this be for Bennington or North
14 Bennington?

15 A. This is North Bennington.

16 Q. I thought that Jason Dolmetsch was with
17 Bennington.

18 A. He is. I -- I asked him a casual question
19 where I said, "Gee, when we were at North
20 Bennington, they indicated that they were close to
21 their capacity on filtration, and there's some
22 actual documentation of that."

23 And he said yeah, that was his
24 understanding, too, and he sent me this graph.

25 Q. Okay. And it ultimately ends up being a

1 nonissue because you're not offering any opinion on
2 damages for North Bennington with regard to source
3 capacity or infrastructure improvements. Is that
4 correct?

5 MS. JOSELSON: Objection.

6 A. So I offered the opinion. I -- and
7 appreciating that they know their system and they
8 have their own policies, it is my opinion, and I
9 think Jason shares it, that they're actually closer
10 to the line than they think they are.

11 Q. But you've not attempted to estimate any
12 damages for North Bennington in that regard, have
13 you?

14 MS. JOSELSON: Objection.

15 A. So I was unable to identify projects for
16 North Bennington that could be used to offset the
17 effects of the PFOA in groundwater, and there's
18 no -- therefore, there's no damages with that
19 category.

20 MR. WILSON: No further questions.

21 MS. JOSELSON: I just have one.

22 EXAMINATION

23 BY MS. JOSELSON:

24 Q. You've been asked about a lot of future
25 potential contingencies.

1 Does your methodology include an analysis
2 of the losses for people who, for whatever reason,
3 within the contamination zone, are not able to
4 connect to municipal water?

5 MR. WILSON: Object to the form.

6 A. So -- so my -- my model includes -- we
7 talked about it this morning -- there were a dozen
8 properties for which at the moment it's uncertain
9 how they're going to be dealt with. They're too
10 far from the system where they physically can't get
11 pipes there. If there are other individuals who
12 could not connect and would have to remain on
13 POETs, I could use that damage model to address
14 those individuals.

15 Q. So it's all there in your methodology in
16 your report?

17 A. It's all there, yeah.

18 MR. WILSON: Object to the form.

19 MS. JOSELSON: That's all.

20 THE VIDEOGRAPHER: The time is
21 approximately 3:23 and this is the end of Media
22 No. 4.

23 (Witness excused and deposition concluded
24 at 3:23 p.m.)
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[illegible]

Notary Public/Justice of the Peace

C E R T I F I C A T E

I, Deanna J. Dean, a Registered Diplomate Reporter, Certified Realtime Reporter, and Massachusetts Notary Public, do hereby certify that the foregoing, to the best of my knowledge, skill and ability, is a true and accurate transcript of the deposition of ROBERT UNSWORTH, who was duly sworn, as reported by me at the place and under the circumstances present on the date hereinbefore set forth.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action in which this deposition was taken, and further that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.



Deanna J. Dean, RDR, CRR

Signed this 3rd day of April, 2018

My MA commission expires December 28, 2018

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[anybody - assuming]

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[assumption - based]

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF SEPTEMBER 1, 2016. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS
COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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